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STUDIES IN ANCIENT ORIENTAL CIVILIZATION

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HITTITE HIEROGLYPHS
II

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	a	e	i	u	Vowel uncertain
Vowels					
Nasals					
ʾ					
ḫ					
k/g					
l					
m					
n				= nu = nú	
p/b					
r					
s/z	= sa = sá				
t/d					= tx = tx́
w					
Syllables of unknown value					

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THE ORIENTAL INSTITUTE *of* THE UNIVERSITY OF CHICAGO
STUDIES IN ANCIENT ORIENTAL CIVILIZATION, NO. 14

HITTITE HIEROGLYPHS
II

By
IGNACE J. GELB

THE UNIVERSITY OF CHICAGO PRESS
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PREFACE

Owing to my preoccupation with *Inscriptions from Alishar and Vicinity*, I was unable to work on the second part of my *Hittite Hieroglyphs* for a period of over two years. This was more fortunate than otherwise. For when in 1934 I resumed work on the Hittite hieroglyphs, I could do so entirely uninfluenced and unprejudiced by old ideas. Naturally, I could not follow in the footsteps of those scholars who were then busy making extensive translations of various Hittite inscriptions, because I felt that the phonetic structure on which their translations rested was much too frail. It was evident that the readings of the phonetic signs would have to be settled before the hieroglyphic inscriptions could safely be interpreted.

The present study is, therefore, dedicated to the reading of the Hittite hieroglyphic signs. Problems connected with the interpretation of the language have been touched upon but rarely, and then only when necessary to illuminate the reading of individual signs. In the section entitled "The Question of the Syllabary" I hope to have settled once for all the problem of the general character of the Hittite syllabary. The principle that double consonants are not expressed in the writing is of little importance. Of greater consequence in understanding the grammatical structure is the discovery of nasalization. May it not suffer the same fate as did my syllabic theory, which in the beginning was criticized severely by some scholars, only to be quietly accepted by them later. The whole study is preceded by a bibliography of works on the Hittite hieroglyphs which have appeared since 1932. Since the bibliography in HH, I, has met with a favorable reception, this supplementary bibliography is presented in the hope that it also may be of help to scholars who wish to orient themselves in the Hittite hieroglyphic field.

The list of syllabic signs in the frontispiece of Part II as compared with that of Part I, besides being brought up to date, presents the following changes: (1) the forms of the signs are always cursive and are taken mostly from the Assur lead strips; (2) the signs are arranged

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in groups following the order used in various Hittite cuneiform studies. The twelve unread syllables include some for which values could be suggested but not proved. My new reconstruction of the syllabary is based on the firm conviction that there was no homophony or polyphony in Hittite hieroglyphic writing and that no distinction was made between voiced and voiceless consonants. It shows too my belief in a four-vowel system in the Hittite hieroglyphs.

To Professor Arnold Walther for constant help in questions related to Boğazköy Hittite, to Dr. T. George Allen for his valuable help on editorial matters, and to Mrs. R. T. Hallock for her masterful drawings of hieroglyphic signs I offer my sincerest thanks.

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SYMBOLS

Parentheses inclose syllables, single or in groups, which serve as phonetic complements of ideograms, e.g., *Karka(ka)-me-*, *umeni(me-ni)-*. Absence of parentheses around syllables following ideograms implies uncertainty as to how many syllables represent phonetic complements and how many are to be read independently. Brackets indicate lost signs; question marks, uncertain readings; ⟨ ⟩, emendations.

Ideograms the pronunciations of which are unknown are transliterated with *X*, or are represented by their translations (if known) within quotation marks. The "ideogram mark," the hieroglyphic symbol $^{\triangleright c}$ which often follows ideograms to indicate that they are such, is included in the transliterations if present in the original text. A small *x* stands for an unread syllabic sign or for an unknown element, either vowel or consonant, in such a sign. Thus *rx* represents a syllable consisting of *r* followed by an unidentified vowel.

Common determinatives are indicated by small superior roman letters as follows:

^{c} city	^{l} land, country
^{d} deity	^{m} masc. name (cuneiform)
^{f} fem. name (cuneiform)	^{n} personal name

The English terms for other determinatives, and even for "city" and "land" when following the name, are spelled in full.

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[1] The first six items supplement the bibliography of 1931.

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IV. ABBREVIATIONS

A	British Museum. Carchemish; report on the excavations at Djerabis . . . . conducted by C. LEONARD WOOLLEY and T. E. LAWRENCE (2 vols.; London, 1914–21). Plates of series A.
AAA	Annals of archaeology and anthropology (Liverpool, 1908——).
ADD	JOHNS, C. H. W. Assyrian deeds and documents recording the transfer of property (4 vols.; Cambridge, 1898–1923).
AJSL	American journal of Semitic languages and literatures (Chicago, etc., 1884——).
AOF	Archiv für Orientforschung (Berlin, 1923——).
AOr	Archiv orientální. Journal of the Czechoslovak Oriental Institute, Prague (Praha, 1929——).
Assur	ANDRAE, WALTER. Hettitische Inschriften auf Bleistreifen aus Assur. WVDOG, No. 46 (1924).
BKS	Boghazköi-Studien, hrsg. von OTTO WEBER (Leipzig, 1917–24).
BoTU	FORRER, E. O. Boghazköi-Texte in Umschrift. WVDOG, Nos. 41 and 42 (Leipzig, 1922–26).
CE	Cornell Expedition to Asia Minor and the Assyro-Babylonian Orient . . . . . Travels and studies in the Nearer East . . . . (Ithaca, N.Y., 1911).
HB	FORRER, E. O. Die hethitische Bilderschrift. SAOC, No. 3 (1932).
HH, I	GELB, I. J. Hittite hieroglyphs. I. SAOC, No. 2 (1931).
IHH	HROZNÝ, B. Les inscriptions hittites hiéroglyphiques. Essai de déchiffrement suivi d'une grammaire hittite hiéroglyphique en paradigmes et d'une liste d'hiéroglyphes, *in* Monografie archivu orientálního, I, Livraison I et II (Praha, 1933–34).
JRAS	Royal Asiatic Society of Great Britain and Ireland. Journal (London, 1834——).
KAF	Kleinasiatische Forschungen (Weimar, 1927——).
KBo	Keilschrifttexte aus Boghazköi, hrsg. von H. FIGULLA, E. F. WEIDNER usw. WVDOG, Nos. 30 and 36 (Leipzig, 1916–23).
KUB	Berlin. Staatliche Museen. Vorderasiatische Abteilung. Keilschrifturkunden aus Boghazköi (Berlin, 1921——).
M	MESSERSCHMIDT, L. Corpus inscriptionum Hettiticarum. MVAG, 5. Jahrg., Nos. 4–5 (1900).
I M	*Op. cit.*, Erster Nachtrag. MVAG, 7. Jahrg., No. 3 (1902).
II M	*Op. cit.*, Zweiter Nachtrag. MVAG, 11. Jahrg., No. 5 (1906).
MVAG	Vorderasiatisch-aegyptische Gesellschaft. Mitteilungen (Berlin, 1896–1908; Leipzig, 1909——).

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OIC Chicago. University. Oriental Institute. Oriental Institute communications (Chicago, 1922——).

OIP Chicago. University. Oriental Institute. Oriental Institute publications (Chicago, 1924——).

OLZ Orientalistische Literaturzeitung (Berlin, 1898–1908; Leipzig, 1909——).

PSBA Society of Biblical Archaeology. Proceedings (London, 1879–1918).

RHA Revue hittite et asianique (Paris, 1930——).

SAOC Chicago. University. Oriental Institute. Studies in ancient oriental civilization (Chicago, 1931——).

Sundwall SUNDWALL, JOH. Die einheimischen Namen der Lykier nebst einem Verzeichnisse kleinasiatischer Namenstämme. Klio, Beiträge zur alten Geschichte, 11. Beiheft (Leipzig, 1913).

ŠuK BOSSERT, H. TH. Šantaš und Kupapa. Neue Beiträge zur Entzifferung der kretischen und hethitischen Bilderschrift, *in* MAOG, VI, Heft 3 (1932).

Tallqvist TALLQVIST, KNUT L. Assyrian personal names. Acta Societatis scientiarum Fennicae, Tom. XLIII, No. 1 (Helsingfors, 1914).

WVDOG Deutsche Orient-Gesellschaft. Wissenschaftliche Veröffentlichungen (Leipzig, 1900——).

WZKM Wiener Zeitschrift für die Kunde des Morgenlandes (Wien, 1887——).

ZA Zeitschrift für Assyriologie und verwandte Gebiete (Leipzig, 1886——).

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THE WRITING

Additional General Observations

THE QUESTION OF THE SYLLABARY

For more than three years I have been waiting patiently for someone to open the discussion concerning the most important result of my work on the decipherment of the Hittite hieroglyphic writing, namely the establishment of the syllabic character of the phonetic signs, which are related in system to the Cypriote syllabary.[1] Thus far only two scholars, Albright[2] and Hrozný,[3] have expressed themselves in favor of my theory; all the rest either have passed over it superficially in their reviews or have avoided the subject. Characteristic of the former attitude is the remark of Meriggi:

> Sur les idées de l'auteur concernant le caractère des "syllabes" qui seraient toujours "ouvertes" (*pa*, *ta*, *mi*, etc., et jamais *ap*, *at*, *kar*, etc.) et sur sa comparaison avec le syllabaire chypriote et l'écriture crétoise, je ne veux pas répéter ici ce que j'en ai déjà dit (OLZ '32, col. 562 sv.), sauf mon avis, que la comparaison est d'une part prématurée et de l'autre trop superficielle.[4]

These two expressions "prématurée" and "superficielle" are the cause of my writing this section, the purpose of which is to settle once for all the character of the Hittite syllabary. In the following pages I shall try to bring forth in an "orthodox" way the complete proof for my syllabic theory. No new facts in favor of this theory are presented. The few pages which take the place of the few sentences in my earlier

[1] HH, I, 3 and 15 f.

[2] AJSL, XLIX (1932), 62: "We are, therefore, a priori, obliged to admit the extreme probability of Gelb's conclusions with regard to the extent and the nature of the Hittite syllabary."

[3] IHH, p. 99: "Les valeurs syllabiques se composent toujours, autant que je vois, d'une consonne et d'une voyelle, celle-ci venant en second lieu (*na*, *ta*, etc.; cf. Gelb, l. c. 15)." Since Hrozný accepts without discussion my syllabic theory, he is liable to be criticized, just as much as I am, for having accepted a theory which allegedly has never been proved. Therefore Hrozný's study, even though it gives me great satisfaction to know that he is aligning himself in favor of the syllabic theory, cannot counterbalance the attacks of other scholars against it.

[4] RHA, II (1932–34), 5.

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presentation of it are only the result of the "orthodox" method, which does not allow of "jumps" in thinking, however slight and easy they may be. The facts here presented are for the most part already well known to the great majority of my readers. But I must repeat them in order to avoid possible later criticism for having omitted some important point in my argumentation.

That the so-called "Hittite hieroglyphic" monuments found over the large area extending from the western part of Asia Minor to southern Syria represent a writing no longer calls forth any discussion, even though no scholars have yet tried to prove the characters to be such, and not simple pictures used for ornamental or symbolic purposes. The fact is, however, that doubt formerly did exist in respect to the cuneiform and the Egyptian hieroglyphic, which for a long time had been considered by many scholars as merely ornamental or symbolic. For the cuneiform, compare Hyde, *Hist. relig. vet. Pers.* (1700), page 527: "Me autem judice, non sunt litterae, nec pro litteris intendebantur, sed fuerunt solius ornatus causa . . . . ."[1] Concerning the symbolic value of the Egyptian hieroglyphs compare Athanasius Kircher, *Sphinx Mystagoga* (Amstelodami, 1676), e.g. page 20 *b:* ". . . . certum est, *Obeliscos* singulos, uti diversa exhibebant, sic diversis *Symbolis,* diversoque eorundem contextu fuisse insignitos . . . . ."

Evidently modern scholars have overlooked this basic link in the great chain of facts leading toward decipherment of the Hittite hieroglyphic writing. It is quite possible that at some time in the future, when we feel ourselves definitely on the road toward a complete decipherment, some of them may become aware of this oversight. Then they will try to show that all previous decipherment is faulty because evidence of fundamental importance is lacking, namely that the Hittite monuments in question actually represent writing and not mere ornamentation. To avoid such a situation we may refute all possible future objections by saying that the Hittite hieroglyphic monuments represent a writing because they present consecutively various characters arranged as in many other systems of writing. These characters cannot have a merely decorative purpose because they lack the necessary symmetry.

[1] Quotation from C. Fossey, *Manuel d'assyriologie,* I (Paris, 1904), 86 f.

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If the Hittite monuments represent a writing, this writing must naturally consist of signs; and signs are usually divided into two classes: ideographic signs, which represent an idea, not necessarily a sound, and convey a message to the eye, not to the ear; and phonetic ones, which always represent a sound and convey a message to the ear as well as to the eye. Such writing must serve as the instrument of a language, and language consists of words organized in some well established order. By combining these two premises, one quite simply and naturally arrives at the conclusion that this writing consists of words expressed by signs, either ideographic or phonetic.

In the most primitive stage of ideographic writing, every single sign represents one certain idea; in more highly developed writings, two or more signs represent a more complicated idea, usually an abstraction. Thus, for instance, a creature wearing an apron and standing on two feet might represent the type *homo sapiens*. The same human being with a calamus in his hand and spectacles on his nose might symbolize a scholar. Two scholars, similarly depicted, standing face to face, might easily represent the abstract idea of discussion, disaccord, quarrel. Now what is to be done if it is desired to express only one of the meanings, such as the polite word "disaccord," rather than "quarrel"? This problem arose long ago and was solved in the following manner: Two scholars would be shown standing face to face and a picture of a cord would be added (supposing that the ancient writers had had the word "cord"), representing of course only the sound "cord," not the idea of "cord" meaning "string." Such a sign is usually called a phonetic complement because by means of its sound it gives the clew to the reading of an ideographic sign. In later periods ideographic-phonetic signs often lost entirely their ideographic values and acquired the definite phonetic values so necessary in representing personal names and abstract ideas.

During the last sixty years many scholars have made attempts to read the signs of the Hittite hieroglyphic writing. Some have made lists of explained signs, while others have tried to count all the signs used in the writing. The method is quite simple: one lists the signs representing parts of the body, animals, plants, and objects and arrives at the number of, let us say, 220 signs. But nobody before me has seemed willing to go one step farther and count all the phonetic

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signs separately from the ideograms. This procedure is not much more complicated than that just described. If a list is made of words used in the Hittite hieroglyphic writing, it will very soon be seen that some of the signs appear only at the beginning of a word and are never used as grammatical endings. In most cases the words can be separated easily because during certain periods the sign was used to separate words from one another. In a word consisting of five signs, then, the first sign, or the first two signs, or at the most the first three, may be assumed to represent the ideogram, but the fourth and fifth signs can represent only the phonetic values which aid in the reading of the preceding ideogram. If, in counting, all ideograms are disregarded and all signs which appear in the fourth and following positions are put down on paper, the result derived will be astounding: *In all the Hittite hieroglyphic writing no more than fifty-seven*[1] *phonetic signs are used.*

Even to a person who has studied only superficially the history of writing this number alone speaks for itself: Hittite writing, disregarding the ideograms, cannot be alphabetic because a much smaller number of signs would suffice if it were; and it cannot be syllabic in the same sense as is Assyrian cuneiform because the number of signs would have to reach at least two hundred to express all the various open and closed syllables. But if this writing is not alphabetic, it must be syllabic; and, if it is syllabic, its nature must be such as to permit of expressing all the sounds in the Hittite language by means of the smallest possible number of signs. There exist two syllabic writings in which the number of signs approximates most closely that in the Hittite hieroglyphs: the Cypriote syllabary with fifty-four signs and the Japanese with forty-eight. Both of them disregard, at least in writing, the distinction between voiced and voiceless consonants and use only signs expressing a vowel alone or a consonant plus a vowel. The comparison with the Cypriote syllabary is especial-

[1] In HH, I, 3 and 15, I recognized only fifty-six syllabic signs in the Hittite writing. The new number of fifty-seven includes all the syllabic signs in general use but omits a few signs of local importance at Topada and Kayseri. This number is subject to possible increase or decrease by one or two. In view of the fact that some of the signs given separately in the frontispiece may be merely variant forms of a single sign, I favor the second possibility.

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ly instructive because from it conclusions can be drawn, not only concerning the similarity of the Cypriote and Hittite systems, but also about the common origin of these two writings in relation to that of the third writing of the same group, the as yet undeciphered Cretan.

It is not necessary to adduce any additional proofs to substantiate my theory about the character of the Hittite hieroglyphic syllabary. The number of signs, fifty-seven, in itself precludes the possibility of any other explanation. Although the works and articles which have appeared during the last few years have been concerned largely with proving or disproving the values of a great number of phonetic signs, until now not a single sign has been proved to have a value consisting of a vowel plus a consonant or of a consonant plus a vowel plus a consonant.

"Premature" my syllabic theory was called. Nevertheless, the fact that this theory has had a definite bearing upon the results of work on Hittite problems since the appearance of my *Hittite Hieroglyphs*, I, is shown clearly by comparison of the list of signs explained by Meriggi at the end of his article in OLZ, XXXVI (1933), 73–86, with an earlier list of explained signs in his article in ZA, XXXIX (1930), 176–78. Each of the thirty-eight signs in this new list, with one doubtful exception (No. 8; cf., however, p. 23 of the present study), has a phonetic value consisting of either a vowel alone or a consonant plus a vowel! The same is true if one compares the signs explained recently by Bossert in his various articles in AOF, Volumes VIII–IX, with the signs discussed in his earlier *Šantaš und Kupapa* (Leipzig, 1932). No serious-minded scholar can fail to see the unmentioned influence of my syllabic theory upon the reading of the phonetic signs during the last few years. The reason why all the values for all the signs recently discussed conform without exception to my syllabic theory is clear. My theory, though officially unaccepted, has induced scholars to accept as final always only those values which are in accord with it. Mere determination of the values of individual signs cannot and will not provide any new *proofs* for this theory. Every new value which becomes established can only *confirm* the syllabic theory, which was proved already in my first work.

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DOUBLE CONSONANTS

Examples of Hittite hieroglyphic spellings equivalent to non-Hittite spellings with double consonants are here listed:

1. *Wa+ra-pa-la-wa-*,[1] the name of a king of Tyana,[2] corresponds exactly to ^{m}*Ur-pal-la-a* of cuneiform sources. The Greek form of this name is Ουρπαλος, cited after Bossert by Meriggi (OLZ, XXXVI [1933], 78).[3] Compare also Ὀρβαλισσηνη, the name of a district in Asia Minor,[4] and hieroglyphic *warpali*^{x}(*wa+ra-pa-li*)-*sa*[5] (I M XXI:2) with Hittite cuneiform *warpalliš*, "strong."[6]

2. ^{n}*Mu-wa-tx-li-*, the name of a king of Marash,[7] corresponds exactly in form to Hittite cuneiform $^{\lceil m}$*Mu-wa-tal-li*$^{\rceil}$,[8] ^{m}*Mu-wa-ta-al-li*,[9] ^{m}*Mu-wa-at-ta-al-li*,[10] and ^{m}*Mu-ut-ta-al-li*,[11] and to Assyrian ^{m}*Mu-tal-li*, ^{m}*Mut-tal-lu*, and ^{m}*Mut-tal-lum*.[12] The Greek forms of this personal name are Μοταλις,[13] Μουταλης,[13] Μοταλης,[14] and Μυταλις.[15]

3. The personal name *Ku-ku-la-na* on a Hittite seal bought at Smyrna[16] is the same as ^{m}*Ku-ku-la-a-nu*, ^{m}*Ku-ku-la-ni/nu*, ^{m}*Ku-kul-la-ni/nu*, ^{m}*Ku-kul-la-a-ni*, and similar forms known from Late Assyrian business documents.[17] Compare also *Ku-ku-lá-num* and its variants in the Cappadocian tablets.[18]

[1] All new readings of the phonetic signs are discussed on pp. 12–36 under the respective signs.

[2] For the references, reading, and identification cf. Bossert, ŠuK, pp. 27 ff.

[3] His reference to "Sardis, VII, 2 S. 97" should read "Sardis, VI, 2 S. 97."

[4] Pape-Benseler, *Wörterbuch der griechischen Eigennamen* (3d ed.; Braunschweig, 1884), p. 1068.

[5] Messerschmidt's copy should be corrected thus after my collation.

[6] Hrozný in AOr, IV (1932), 115, and Ehelolf in KAF, I (1930), 160.

[7] Examples given by Meriggi in MVAG, XXXIX, 140.

[8] Cf., e.g., BKS, VIII, 80:1.

[9] Cf., e.g., KBo, I, 19 obv. 11.

[10] Cf., e.g., BKS, IX, 126:11.

[11] Cf., e.g., BKS, IX, 148:9.

[12] Tallqvist, p. 142.

[13] Sundwall, p. 159.

[14] Sachau in ZA, VII (1892), 99.

[15] Pape-Benseler, *op. cit.*, p. 967, and Sayce in JRAS, 1931, pp. 429–31.

[16] D. G. Hogarth, *Hittite Seals* (Oxford, 1920), No. 326, and Sayce in PSBA, XXX (1908), 220.

[17] Tallqvist, pp. 110 f.

[18] F. J. Stephens, *Personal Names from Cuneiform Inscriptions of Cappadocia* (New Haven, 1928), p. 52.

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4. The name of a king of Hamath, *U+ra-ḫi-li-na-*,[1] is preserved in the Assyrian inscriptions in the forms ^{m}*Ir-ḫu-li-e-ni*, ^{m}*Ir-ḫu-li-na/ni*, and ^{m}*Ur-ḫi-li-ni*.[2] But the same name occurs in Nuzi as ^{m}*Ur-ḫa-li-en-ni* (Harvard Semitic Museum, Nuzi 652:5; unpublished).

5. *Ka-ka-ã*, a personal name on a lead strip from Assur (c Vo 3), has been compared by Bossert[3] with a feminine name, Κακκας, cited by Sundwall, p. 93. However, the name Kakkas occurs as a "Lall-wort" with or without gemination everywhere in the Near East in such personal names as ^{f}*Ga-ga-a*,[4] *Ga-ga*,[5] *Ka-ka-a*,[6] ^{m}*Ka-ka-*ᵓ,[7] Κακας,[8] and in the divine names ^{d}*Ga-ga*[9] and ^{d}*Ka-ak-ka*.[10]

6. ^{n}ᵓ*A-sa-tu-wa-ki?-ma-ĩ-sá*, the name of a king of Carchemish, probably occurs as ^{m}*As-ta-kú-um-me* in Assyrian documents (cf. pp. 15 and 20).

7. The city *Ḫa-ra-na-*, often mentioned in Hittite hieroglyphic inscriptions, corresponds exactly to Ḫarrana (cf. p. 26).

8. On the possible equation of the geographic name *Su?-tu-ma-ni-a-na* with *Šu-tu-um-ma-na-aš* compare page 32.

9. On the connection between Hittite hieroglyphic *ḫi-pa+ra-* and Hittite cuneiform *ḫippara-*, "captive," see page 17.

10. On *Wa+rx-wa-ni* = Arawanni compare page 29.

The ten examples just discussed[11] show clearly that in cases where

[1] References given by Meriggi in MVAG, XXXIX, 164.

[2] Tallqvist, p. 102.

[3] AOF, VIII (1932–33), 143. Bossert's statement that gemination is used very rarely in Hittite hieroglyphic texts, although it might be called cautious, is not true. Where can Bossert attest any case whatsoever of gemination in Hittite hieroglyphs?

[4] Tallqvist, p. 79, and *Neubabylonisches Namenbuch*, p. 62.

[5] E. Huber, *Die Personennamen in den Keilschrifturkunden aus der Zeit der Könige von Ur und Nisin* (Leipzig, 1907), pp. 86 and 172.

[6] Arthur Ungnad, *Babylonian Letters of the Hammurapi Period* (Publications of the Babylonian Section of the University of Pennsylvania Museum, VII [Philadelphia, 1915]), 51:1.

[7] A. T. Clay, *Business Documents of Murashû Sons of Nippur Dated in the Reign of Darius II (424–404 B.C.)* (Babylonian Expedition of the University of Pennsylvania. Series A: Cuneiform Texts, X [Philadelphia, 1904]), 66:4.

[8] Pape-Benseler, *op. cit.*, p. 594.

[9] Deimel, *Pantheon*, No. 424. [10] *Ibid.*, No. 1627.

[11] Cf. also *ḫu-ḫa* = *ḫuḫḫa* (p. 18) and possibly *sa-li* = *salli* (p. 30).

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double consonants are written either in Greek or in cuneiform only single consonants are given in the hieroglyphs. Since examples to the contrary are entirely lacking, the following principle may be formulated: *Double consonants are never expressed in Hittite hieroglyphic writing.* This principle should not astonish anyone who recalls that double consonants are not expressed in Old Akkadian or Old Assyrian cuneiform writing, in Semitic alphabets, in Egyptian hieroglyphs, or in Cypriote.

VOICED AND VOICELESS CONSONANTS

The fact that the Hittite syllabary consists of only fifty-seven signs precludes any possibility of distinction between voiced and voiceless consonants in the Hittite hieroglyphic writing. To those who prefer concrete proofs to theories and logical deductions, the following examples may speak for themselves:

The sign *ka* is used to express both *k* and *g*. Thus *k* is shown in hieroglyphic *Mu-se-ka-*, Assyrian cuneiform Muška or Muški, Hebrew *Mšk*, classical Μόσχοι (p. 19),[1] and in hieroglyphic ^{d}*Ma-ru-ta-ka-sa*, Hebrew Merodakh, Akkadian Marduk (p. 30). The consonant *g* is shown in hieroglyphic ^{n}*Sá-ka-e*+*ra-sa*, Assyrian cuneiform Sangara, Sangar, or Sagara (p. 13).[2]

The sign *ku* is used to express both *k* and *g*. Thus *k* is shown in hieroglyphic *Ku-ku-la-na*, Assyrian cuneiform Kukulani/u (p. 6).[3] The consonant *g* is shown in hieroglyphic *Ku*+*ra-ku-ma-*, Assyrian cuneiform Gurgume (p. 21), and in hieroglyphic *Se-ku*+*ra-*, Assyrian cuneiform Sagura or Saguri, modern Sâjûr (p. 21).

The sign *pa* is used to express both *p* and *b*. Thus *p* is shown in hieroglyphic $^{\text{lituus}}$*Pa-na-mu-wa-ta-sa*,[4] Assyrian cuneiform Panammû,

[1] See E. Dhorme in *Syria*, XIII (1932), 39.

[2] Tallqvist, p. 192.—Thus hieroglyphic *Karka*(*ka*)*-me-* (p. 19) can express *k*, as in Egyptian *Krkmš* (and *Qrqmš*), Hebrew *Krkmš*, or *g*, as in cuneiform Gargames or Kargames (also Karkamis). Bossert's Ḫargamuš (ŠuK, p. 22) does not belong here.

[3] Hieroglyphic ^{d}*Ku*$^{\text{swallow}}$*-pa-pa-*, Greek Κυβήβη, Hittite cuneiform Kupapa-, and Assyrian Gubaba (p. 21) show the interchange of *k* and *g* on the one hand and *p* and *b* on the other.

[4] By "lituus" I designate the sign ⌠, following Meriggi (OLZ, XXXV, 562). The latter now (WZKM, XLI, 30 and 37, and MVAG, XXXIX, 2 and 13) reads the "lituus" sign, certainly incorrectly, as *ap*.

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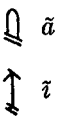
Aramaic *Pnmw*, Παναμυης from Asia Minor (p. 22). The consonant *b* is shown in hieroglyphic ^{d}*Pa-ḫa-la-ta-se*, Semitic Baʿlat (p. 16).

The sign *ta* is used to express both *t* and *d*. Thus *t* is shown in hieroglyphic ^{d}*Pa-ḫa-la-ta-se*, Semitic Baʿlat (p. 16). The consonant *d* is shown in ^{d}*Ma-ru-ta-ka-sa*, Semitic Marduk, Merodakh (p. 30).

NASALIZATION



ã

ĩ

In heretofore accepting Meriggi's theory that the two oblique strokes often found below the signs for *a* and *i* indicate a long vowel,[1] I displayed a great lack of critical judgment. My only consolation lies in the fact that such scholars as Bossert, Hrozný, and others also recognize the two strokes as a symbol of length in the Hittite hieroglyphic writing. But are we not presupposing too great a grammatical sense on the part of the Hittites? Would it be logical to admit the existence of a symbol for vowel length in a writing which originated in the second millennium B.C., whereas many highly developed writings of the same period and even of some later periods in the Near East are known to be practically or entirely incapable of coping with the problem of designating long vowels? There are no parallels in other early writings of the Near East for the alleged existence of a special symbol for long vowels in Hittite hieroglyphic writing.

Another objection to reading *a* or *i* with two strokes as *ā* or *ī*, respectively, presents itself in such words as, in accordance with the common tendency, would have to be transliterated as ^{n}*Ḫalpa(pa)-ru-ta-a-ā-sa* in I M XXI:1 or "prince"-*ā-a-sa* in A 11a:1 and b:1. It would be a most unusual case of lack of economy to express long vowels by writing long vowels plus simple vowels. For such reasons it was evident that another explanation must be sought.

As has been observed by Bossert (ŠuK, p. 58), the signs *a* and *i* with the two oblique strokes do not occur in the earliest monuments from Carchemish. Hrozný (IHH, pp. 21 f.) considers these combinations as composed of *a* or *i* plus the sign *a* placed under them. For my

[1] Meriggi himself in ZA, XXXIX (1930), 184, accepted this notion from Peiser.

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part, I noted that in the early Carchemish monuments the strange combinations *a-e* and *i-e* often occur, for example in *X-a-e-tá* (I M X:3), *-ta-a-e-tx X-a-e* (I M XII 1:4), *-a-e-ta-pa-wa* (I M XIV 7:4), *ʔ-i-e-pa*^{city} (I M XII 2:1), *i-e X-e* (I M XII 2:2), *i-e x-i-e* (I M XIII 1:1). Combining this fact with Bossert's observation that in the early Carchemish monuments the signs *a* and *i* plus the two strokes do not appear, I realized that in the earlier period the combinations *a-e* and *i-e* were used for these two compound signs.[1] Hrozný's conception, then, of the origin of the latter has to be modified in that the two strokes added below *a* and *i* represent not *a* but *e*.

Easy as it had been to explain the origin and development of the signs *a* and *i* plus the two strokes, it was difficult to determine the exact phonetic values of the combinations *a-e* and *i-e*. The solution came to me through comparison with the Polish language, which has two signs, *ą* and *ę*, to express nasal sounds. The Polish *ą* is in origin the Latin *ae*.[2] Just as both Polish and Latin in the Middle Ages used this *ae* combination to express the nasal *ã*, so Hittite hieroglyphic writing evidently used *a+e* and from that combination developed the sign *a* plus two strokes to express *ã*. Similarly it used *i+e*, from which developed the sign *i* plus two strokes to express the value *ĩ*.

It would be impossible to go over the entire Hittite hieroglyphic material to show how this newly discovered principle of nasalization fits in each case without rewriting practically the whole Hittite grammar. Only a few typical cases of nasalization are discussed here.

Anyone who reads the translations of Hittite hieroglyphic texts made recently by Hrozný and Meriggi will be surprised to find how often these scholars are forced to recognize accusative plurals or neuters in cases where common sense would require the simple accusative singular. Meriggi in WZKM, XL, 258, could not have failed to observe that the combination *ĩ-pa-wa-tx wani*$^{>c}$*(wa-ni)-ĩ*[3] in the Restan and other inscriptions expresses the accusative. Because the usual *-n* suffix of the accusative was lacking, he was forced to interpret

[1] Cf. the ending *-a-e-tá* of Carchemish with *-ã-ta* (*passim*), *-ta-a-e-tx* possibly with *wa-ta-tá* (II M XXXI) and *wa-ta-ã-tx* (II M LII:3), and *-i-e* with *-ĩ*.

[2] A. Brückner, *Dzieje języka polskiego* (Warszawa, 1925), p. 122.

[3] Meriggi reads *ĩ-[ba]-wa-[ta* AL]TAR-*wa-na-ĩ*. Hrozný, IHH, p. 259, n. 5, takes this noun as plural.

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his *wanaī* as neuter. In MVAG, XXXIX, 170, he doubtfully proposes to consider this noun as a *plurale tantum*. But since a word *wanas* with personal suffixes exists in the Hittite hieroglyphs, any explanation of it as neuter or *plurale tantum* is impossible. Its clearest occurrence is in the Kara Burun superscription (CE V), which reads *wa-na-sa* ⌜⌜*-la-si*, "the tomb of Wi(?)las."[1]

The accusative singular ending is written in the following three examples in four different ways: *usali(sa-li)-ĩ-na turpi(tu+ra-pi)-na* in A 4d, *usali*$^{>c}$*(u-sa-li)-ĩ* in A 13d:9, and *usali*$^{>c}$*(u-sa-li)-ã-* in M XXIII A 2f. The occurrence of a superfluous nasal sign in front of the accusative ending *-n* is paralleled, for example in Lydian inscriptions. The interchange of such accusative forms as *usalin* and *usalian* is known in Hittite cuneiform.[2] Similarly, *tuwarse*$^{>c}$*(tu-wa+ra-se)-ĩ* (II M XXXIII A:3) and *tuwarsa*$^{>c}$*(tu-wa+ra-sá)-na* (*ibid.*) are equivalent forms.

As has been observed by Hrozný (IHH, p. 21) the words ^{d}*Tarḫu*

[1] All signs are clearly as read above on the squeeze of the Kara Burun inscription, which Professor A. T. Olmstead was kind enough to place at my disposal. The only questionable point is whether the sign which I read phonetically *wi?* should not have rather an ideographic value. On *Wilas* cf. p. 35. Hrozný, IHH, p. 248, reads these signs as *I?-lu?-nà-sa-s*$_1$ or $^{\text{BALDAQUIN}}$*Lunasas?;* Meriggi in WZKM, XLI, 23, and MVAG, XXXIX, 79 and 141, as $^{\text{UR}}$*Nuslaš* or *Anslaš*.

The word *wanas* or *wanis*—that this is the full reading of the ideogram which precedes its phonetic spellings has been proved by Meriggi in MVAG, XXXIX, 14 f.—is translated by Bossert (ŠuK, p. 84) and Meriggi (WZKM, XL, 258 ff.) as "altar." Evidently neither of them connected this Hittite hieroglyphic word with the Lydian *vanaš*, the meaning of which is fully established by the Aramaic translation in the Sardis bilingual text as *m*^{c}*rt*^{ɔ} (cf. E. Littmann, *Sardis*, VI, Part 1, p. 25). Hrozný, IHH, p. 260, rejected the connection of the Hittite with the Lydian word, evidently because he did not know at that time that the whole word, not merely the phonetic complements of the ideogram, should be read *wanis*. The word *m*^{c}*rt*^{ɔ} means in Aramaic not only simply "cave" or "cavern" or "burial cave," but also "vault," "tomb" in general (e.g., G. A. Cooke, *A Text-Book of North-Semitic Inscriptions* [Oxford, 1903], pp. 131, 242, 308, and 310). Moreover, the models of clay houses found at Assur have been explained very plausibly by Forrer (HB, pp. 10 f.) as "der tönerne Ersatz für ein richtiges Totenhaus" and compared with the Hittite hieroglyphic ideogram. The comparison of the Assyrian models with the Hittite ideogram necessitates, however, consistent interpretation of both as "Totenhaus." Therefore Forrer's explanation of the Hittite ideogram as "Denkmal, Stele" cannot be right.

[2] Cf. E. H. Sturtevant, *A Comparative Grammar of the Hittite Language* (Philadelphia, 1933), pp. 168 and 180.

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(*ḫu*)-*sa* "god"-*a-ã-sa* "king"-*ta-a-si* in RHA, III, Pl. 2:2 and Pl. 4:2, mean "Tarḫuns, the king of the gods."[1] This *-ã-sa* ending of the genitive plural resembles so closely the nominative and accusative plural endings *-nzi* and *-nza* in Luvian[2] that it can hardly be considered a mere coincidence. Likewise the Hittite hieroglyphic imperative *pi-ã-tu* (A 13d:7) finds its exact correspondence in the Hittite cuneiform *pí-an-du*.[3] The personal name *A-ã-me* (Assur f Vo 3) is possibly identical with ^{m}*An-me-i*[4] or identical in part with ^{m}*An-mi*-LÚ (KUB VII 1 iv:15 and KBo II 6 iv:17 and 23).

In Hittite hieroglyphic, as in many other writings of Asia Minor, nasalization may be expressed by special signs or may be entirely unindicated. Thus ^{n}*Ḫalpa(pa)-ru-ta-a-ã-sa* (p. 9) as compared with cuneiform ^{m}Kalparunda lacks nasalization after *ru*. The personal name *E*+*ra-nu-wa-ta* (CE XVIII A:1) shows no nasalization as compared with cuneiform Arnuwanta or with ^{n}*Arnu(nú)-wa-ã-sá* of A 11b:2.[5] The same is true of ^{n}*Sá-ka-e*+*ra-sa* (A 7h) as compared with cuneiform Sangara (p. 8).

THE SYLLABARY

Since the readings of the most important signs have already been established through the joint efforts of various scholars, it is unnecessary to repeat here in complete detail the steps by which such readings were reached. Hence the signs are grouped below in the same order in which they are tabulated in the frontispiece.

a

The value *a*, proved by the occurrence of this sign in the geographical name *A-ma-tu-* = Hamath (HH, I, 17), is certain and today almost universally accepted.

[1] "Tarḫuns" is my own reading.

[2] Forrer in ZDMG, LXXVI, 217 and 220.

[3] E.g., Sturtevant, *op. cit.*, p. 223.

[4] *Vorderasiatische Schriftdenkmäler*, I, 91:26; the reading ^{m}*Ilu-me-i* also is possible.

[5] The sequence of the signs is not certain. ^{n}*Arnu(nú)-wa-ã-tá-sá-sa* also could be read. The reading *arnu* of the ideogram is based on comparison with *Arnu* $^{>c}$(*a*+*ra-nú*)*-wa-ḫa* of A 12:5, where an identical but more elaborate ideogram is used.

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Although the value *e* of this sign has been proved beyond any reasonable doubt, first by myself (HH, I, 19 and 34 f.) and then by Hrozný (IHH, pp. 102 and 311 f.), still both Bossert and Meriggi prefer to read it as *ra*. Bossert (AOF, VIII, 138) gives no reason for his reading. Meriggi (OLZ, XXXVI, 76) bases his reading *ra* on the interchange of *ḫa-tu+ra-na* (Assur e Vu 8; Meriggi reads *ḫa-tu-r-an*) with *ḫa-tu-e-sa* (Assur e Vu 27). There is, however, small doubt that the *e* of Assur e Vu 27 should be emended to *e+ra* in conformity with the spellings *ḫa-tu-e+ra* (Assur a Vo 14, b Vo 11, c Vo 12, etc.) and *ḫa-tu-e+ra-sa* (Assur f Vu 10).

Just as the spelling *ḫa-tu-e+ra-sa* expresses the word *ḫaturas*, so the spelling ^{n}*Sá-ka-e+ra-sa* in A 7h (Carchemish) represents Sangara, the name of a king of Carchemish. Evidently the sign *e* in the compound *e+ra* often has no phonetic value but serves merely as a support for the sign *ra*, which never stands by itself. Compare also *X+me-tx+ra-ru* (A 11c:5) with *X+me-tx-e+ra-nú* (Assur e Vo 32 f.), *warama*(*wa-e+ra-ma*)*-a* (Assur c Ro 10 f. and similarly b Vu 4 f.) with *warama*$^{>c}$(*wa+ra-ma*)*-e* (Assur a Ru 17 f.), *tunikala*(*tu-ni-ka-la*)*-sa* (A 3:2) with *tunikara*$^{>c}$(*tu-ni-ka-e+ra*)*-sa* (Assur g Vo 18 f.). The interchange of *r* and *l* as illustrated in the last pair is common in Hittite cuneiform. Like *e*, the sign *a* also serves to support *ra*. Thus ^{n}*A-e+ra-a+ra-a-sa* (A 6:1) evidently has to be read Araras and must correspond to the feminine name Αραρα.[1]

It seems to me that the spellings *e+ra* and *a+ra* are usually employed either (1) after such signs as *ma*, *na*, *sa*, and *ta*, to which the tang is never directly attached, or (2) in cases where it is desired to make clear the pronunciation *ra* (cf. p. 28), since the tang alone may represent either *ra* or simply *r*. It is evident that in the language the *sar* combination should occur as often as, for example, *war*. But while *war* is written *wa+ra*, *sar* is for some unknown reason expressed by *sa-a+ra* or *sa-e+ra*. Compare the personal name *Kupapa*$^{\text{swallow}}$*-sa-*

[1] Sundwall, p. 54.—In another writing of this name, ^{n}*A-* *-a+ra-si* in A 15b**: 1, the unread sign consists of an ideogram, pronounced perhaps *ara*, plus the phonetic complement *ra* expressed by the tang. Such purely phonetic use of an ideogram finds a parallel in the case of *tra*(*ra*), discussed on p. 33.

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a+ra-pa-sa in A 4c with ^{m}Ḫûḫa-šarpaš, [^{m}Ḫ]aza?-šarpiš, and ^{m}Tiwa-šarpaš in an unpublished Boğazköy text, Bo 10197.[1]

In his reading of a geographical name corresponding to cuneiform *Me-ra+a* as *Mi-r-ra* (M XLII:9) Meriggi (*loc. cit.*) thinks to find another reason for reading as *ra* the sign to which I have ascribed the value *e*. But his reading *Mi-r-ra* not only involves the abnormality of a double consonant in the writing (cf. p. 8) but is incompatible with such Boğazköy forms as *Me-ra-a*, *Mi-ra-a*, *Mi-e-ra-a*, *Mi-i-ra-a*,[2] all of which are spelled with one *r*. Instead of his *Mi-r-ra* and my former *Me+ri-e* (HH, I, 34) I now prefer to read *Me+ra-e*.

 i

The occurrence of this sign in the middle of the verb *a-i-a-*, "to make,"[3] as compared with Luvian *aɨa-*, Hittite cuneiform *iɨa-*, proves that the sign in question has the value *i*, as ascribed to it by Meriggi and Hrozný, and not *wa* as assumed in my HH, I, 30.

= *u*

The value of this sign, the monumental form of which I confused with *mu*, the cursive form with *tx*, has been determined as *u* by Bossert and Meriggi[4] from its occurrence in the name of a king of Hamath, *U+ra-ḫi-li-na-sa*, which I formerly read *Mi+ri-ḫa-li-ni-si* (HH, I, 47).

[1] I owe this reference to Professor A. Walther.

[2] Friedrich in KAF, I, 367.

[3] The first discovery of a verb in the hieroglyphic inscriptions (HH, I, 59 f.) I consider to be one of my most important contributions toward their decipherment. Friedrich's statement in ZA, XLII (1934), 193, that Forrer, Meriggi, and H. Bauer arrived independently at the translation of *aɨa-*, "to make," requires correction. The manuscript of chap. ii, "Sprache und Volk," of Forrer's *Die hethitische Bilderschrift* did not reach the editorial department of the Oriental Institute until at least three months after the appearance of my HH, I. As far as I can see, both in the passages quoted by Friedrich and elsewhere in Meriggi's articles, the latter gives me full credit for the discovery and elucidation of *aɨa-* in the Hittite hieroglyphs. It is, I feel sure, accidental that Professor Bauer ever published a translation of Hittite *aɨa-*, for just preceding the beginning of an Indo-Chinese performance which we were attending in Leyden on September 11, 1931, I had shown him a piece of paper on which I had written the word *aɨa-* and my translation of it.

[4] OLZ, XXXVI, 79 f.

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From the interchange of *apa*ᵓᶜ(*a-pa*)*-ma-ta-a* (A 6:1) and *apa*ᵓᶜ(ᵓ*a-pa*)*-i-a-ta* (M XXIV A:2) I have drawn the conclusion that when used phonetically the sign representing the human head must have the value ᵓ*a*.[1] While Hrozný (IHH, pp. 23 and 101) accepts the value given by me, merely changing my transcription ᵓ*a* to *á*,[2] Meriggi (RHA, II, 116 f.; WZKM, XL, 235 and 237, and XLI, 20; and MVAG, XXXIX, 3 and 19 f.) feels justified in assigning the value *e* to this sign.

That the head sign cannot have simply the value *á* as accepted by Hrozný on the basis of frequent interchange of this sign with the usual sign for *a* is shown clearly by two facts: (1) the head sign never appears in the middle of a word, but only at the beginning; (2) its value was certainly developed by the acrophonic principle from Hittite cuneiform *ḫalanta*, "head."[3]

Meriggi's reading *e* for the head sign is based on etymological reasons and is therefore of only relative value; against it can now be adduced two additional occurrences in which the head sign should have the value ᵓ*a*. The personal name ᵐᵓ*A-sa-tu-wa-ki?-ma-ī-sá*, which corresponds probably to ᵐAstakumme, preserved in a cuneiform inscription (cf. p. 20), has to be divided as follows: ᵓ*astu-*ᵓ*akimaīs*, "may ᵓ*akimaīs* be." This last word occurs often in the hieroglyphic inscriptions and is always written with the initial head sign. In the name just cited *w* represents the *Gleitlaut* between the *u* of ᵓ*astu* and the ᵓ of ᵓ*akimaīs*.[4] Again, the personal name ᵐᵓ*A-sa-ta-ru-wa-si* of A

[1] HH, I, 45. The second comparison there given, of words in A 7j and A 12:1, however, does not hold true.

[2] Similarly Bossert in AOF, VIII, 303, n.*, uses *ă*, without giving any reason or source for his transliteration.

[3] Cf. already HH, I, 83. Hittite *ḫalanta* = Akkadian *rêšu* according to KBo, I, 42 ii 11. My use of the *spiritus lenis* sign in transliterating the head sign is of course only provisional, since we do not know what kind of breathing existed in the Hittite hieroglyphic language. It may be that in the word *ḫalanta* not the strong Assyrian *ḫ* is expressed, but the weaker Arabic *ḥ*, which disappears regularly in Hittite hieroglyphic. Cf. among geographical names *A-ma-tu-* with *Ḥmt* and *A-la-pa-* (usually written ideographically) in a new Carchemish inscription (for references see Meriggi in MVAG, XXXIX, 93), with *Ḥlb* (Aleppo).

[4] Thus also Meriggi in MVAG, XXXIX, 19 f.

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15b**:3 corresponds, at least in its first element, to ^{m}*Aš-du-wa-ri-eš(-ma)* of a Boğazköy tablet (KUB, XXII, 51 obv. 14 and rev. 2).[1]

ḫa

The value *u* for this sign was accepted first by myself (HH, I, 28 f.) and Bossert (ŠuK, pp. 39 and 50), then by Hrozný (IHH, pp. 22 and 115 f.). Only Forrer (HB, pp. 31 and 50), basing his conclusion on comparison of Hittite hieroglyphic *ḫa+ra-tu-si* with Hittite cuneiform *ḫartuwaš*, on use of the sign enclitically for "and" like the Luvian particle *ḫa*, and on the *-ḫa* ending of the 1st person singular preterit, assigned to this sign the value *ḫa*. This value was later accepted by Bossert and Meriggi (OLZ, XXXVI, 83–86) and in part by Hrozný, who now assigns to this sign not only his former values *u* and v_1, but also *ḫa?*, *ḫe?* (IHH, p. 154), and *ḫi?* (IHH, p. 197, n. 12). Though a reading *u* might possibly still be assumed for this sign (call it *x*) in ^{d}*Ni-ka-ru-x-sa* (CE XII:5) as compared with ^{d}*Ni-ka+ra-wa-si* (A 6:9), it is highly unlikely. Meriggi, who believes in the value *ḫa* only, tried in WZKM, XLI, 42, to explain the interchange of *ḫ* and *w* by the weakness of the intervocalic *ḫ*. The development Nikarawas > *Nikaruwas > *Nikaru^{w}as > *Nikaru^{ɔ}as > Nikaruḫas is paralleled by Hittite hieroglyphic Tuwana > *Tu^{w}ana > *Tu^{ɔ}ana > Assyrian Tuḫana (cf. pp. 23 f.). On the other hand, the reading *ḫa* is supported by many proper names in which this rendering fits very well. Included among these are ^{d}*Ḫa-pa-tu* = Ḫepat (Bossert in OLZ, XXXVI, 86), *x-tu-ḫa-pa* = Pu(?)tu-ḫepa (Bossert, *loc. cit.*), *Ḫa+ra-na-* = Ḫarrana (p. 26), ^{d}*Pa-ḫa-la-ta-se* = Ba^{ɔ}lat (Hrozný, IHH, pp. 26, n. 1, and 154), and *Pi-ḫa-me* = Piḫame (p. 25).[2]

ḫe?

This is one of the rarest signs in the Hittite syllabary. By the divergent lines on both its left and its right sides it is usually clearly distinguishable from the ideogram or , "prince," with all straight lines, and from , the ideogram for "three" plus the phonetic comple-

[1] I owe this reference to Professor A. Walther.

[2] Also *Ḫa-mu?-wa-ni-sa*^{city} in A 4a:2 = ^{c}*Ḫa-mu* in Harper, *Assyrian and Babylonian Letters*, No. 214 rev. 15 f.? The location of this city is unknown.

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ment *ra* (cf. p. 33). Because of the parallel forms *tuwa*$^{>c}$(*-wa*)-*ḫa-e* and *tuwa*$^{>c}$(*tu-wa*)- (A 6:5; cf. Hrozný, IHH, pp. 63 f.) Meriggi (MVAG, XXXIX, 3) read this sign as *ḫá*. Inasmuch as the sign discussed in the preceding section already has the value *ḫa*, I would prefer to differentiate this sign as *ḫe*.[1]

ḫi

My former reading *ḫa* has to be changed to *ḫi*, in agreement with Bossert and Meriggi (OLZ, XXXVI, 83–86) in view of the occurrence of this sign in the personal name *U+ra-ḫi-li-na-sa* and in the divine name ^{d}*Ḫi-pa-tu*.[2] To these two proofs I can now add two more:

1. *Ḫi-pa+ra-wa-ni-ḫa-wa-ī* "child"*-ni-na* in Assur e Ru 20 ff. = *ḫipparawani(n)-ḫawa-ī* "child"*-nin*, "and the *ḫippara*-child (send)." The word *ḫi-pa+ra-* without the ethnic ending *-wa-ni* evidently corresponds to ^{awēl}*ḫipparaš* of the Hittite Code. The latter, on account of its interchange with Akkadian *asîrum*, has been translated by Professor A. Walther as "captive."[3] Less probable would be the connection of the Hittite hieroglyphic *ḫippara-wani* with the geographical name Ḫipparna, located between Urarṭu and Assyria,[4] because of the great distance of the latter from Asia Minor.

2. The sign *ḫi* occurs also in a geographical name *Na-ḫi-ta-*[5] in the Andaval inscription (M XXXI c:1). This corresponds exactly to ^{lc}*Na-ḫi-ta* of a geographical text (KUB, XXI, 6*a*:6) discussed by Forrer in his *Forschungen*, I, Heft 1, p. 30. His localization of Naḫita south of Karaman (cf. map at end of his book), although it approaches the truth, is not correct. The so-called Andaval inscription was not found *in situ* but had been built into a church, to which it could easily have

[1] Cf. also *X-x-ḫe-[n]u-wa-tá* (OLZ, XXXVII, 147:4) with *[X]-x-ḫa-nu-w[a]-tá* (*ibid.*, l. 6); see also Meriggi in MVAG, XXXIX, 4 and 113.

[2] Outside of the Gürün inscription this divine name occurs also on a stele from the neighborhood of Darende. See OIC, No. 14, Figs. 132 and 133, No. 1, where, however, instead of ^{d}*Ḫi-pa-wa* we should read ^{d}*Ḫi-pa-tu*.

[3] Cf. his translation of the Hittite Code in J. M. P. Smith, *The Origin and History of Hebrew Law* (Chicago, 1931), p. 256.

[4] F. Thureau-Dangin, *Une relation de la huitième campagne de Sargon* (Paris, 1912), l. 425. Thureau-Dangin on the map places Ḫipparna about 60 km. above Nineveh.

[5] Thus clearly on a photograph of the Andaval inscription. See Fig. 1.

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been transported from some neighboring site. Hittite Naḫita, then, corresponds to Nigdeh, Arabic Nakīdā,[1] situated about four miles southwest of Andaval.

 ḫu

Under the influence of an observation that this sign follows the ideograms *kark* and *tark*, I gave it the value *ku* in HH, I, 27 f. All the rest of the scholars give this sign a value beginning with *d:* Forrer (HB, p. 56), *di;* Bossert (OLZ, XXXVI, 86), *du;* Meriggi (OLZ, XXXVI, 82), *du;* Hrozný (IHH, pp. 114 f.), *du?*. In spite of this general consensus, I still see no good reason for assigning the value *du* or similar to this sign. It occurs in Carchemish inscriptions in ^{d}*Ka+ra-x-ḫa-sa*, which is alleged to be identical with Greek Καρδούχας (OLZ, XXXVI, 82); but what could Καρδούχας or his people the Καρδοῦχοι, who belong east of the Tigris, have to do with or in Carchemish?

On the other hand, my original reading *ku* should be changed to *ḫu*[2] for the following reason. As has been observed by Meriggi (WZKM, XLI, 22), the full rendering of the expression "my fathers and grandfathers"[3] occurs in [ʾ*a-m*]*e-i tá-ta-i ḫuḫa*(*ḫu-ḫa*)*-i-ḫa* in I M XII 1:3 f. Meriggi reads the word for "grandfather" as *du-ḫa* in this passage; evidently he overlooks or gives too little weight to the existence of a Hittite cuneiform word for "grandfather," namely *ḫuḫḫaš*. The identity of the Hittite hieroglyphic and Hittite cuneiform words for "grandfather" was first noted by M. Pedersen (AOr, V, 183–86) and later accepted by Hrozný (IHH, p. 154), but the reading of the hieroglyphic ideogram with the phonetic value *ḫu* (Pedersen) or *ḫi* (Hrozný) is entirely impossible. If the two signs following the ideogram for "grandfather" in I M XII 1:3 f. are to be read phonetically, they can be read only as *ḫu-ḫa*. The sign under discussion is given thereby the value *ḫu*.

The chief deity in the Hittite hieroglyphic inscriptions is written with the ideogram , often with the phonetic complement *ḫu*.[4] After careful deliberation upon all the various possibilities, I had read

[1] Cf., e.g., Yāḳūt, *Geographisches Wörterbuch*, ed. Wüstenfeld, IV (Leipzig, 1869), 811.

[2] *Karḫu*(*ḫu*)- is not far from *Karku*(*ku*)-, as I read previously.

[3] This translation was first proposed by Hrozný, IHH, pp. 49 f.

[4] References given by Meriggi in MVAG, XXXIX, 149 f.

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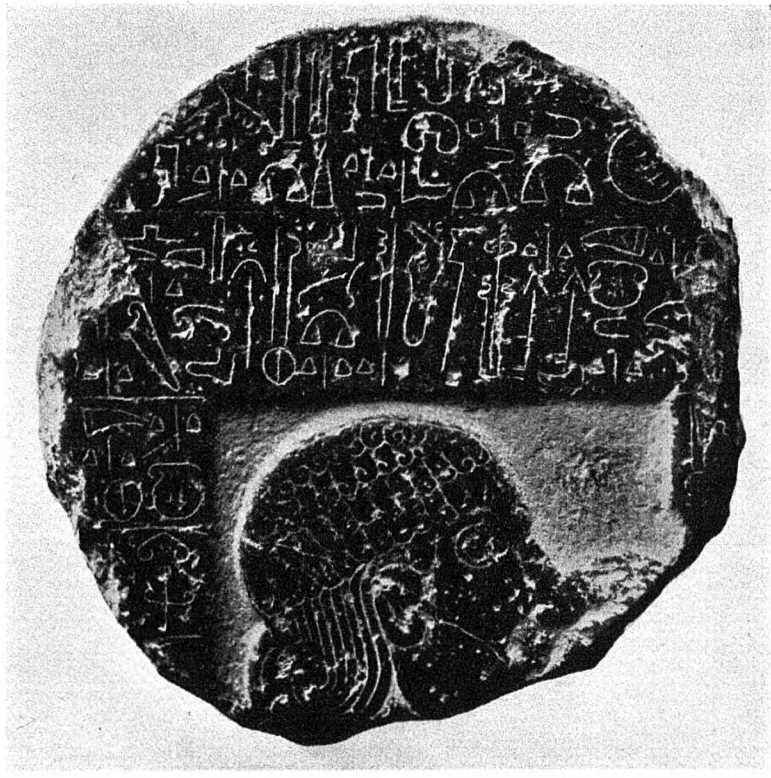

FIG. 1.—INSCRIPTION FROM ANDAVAL

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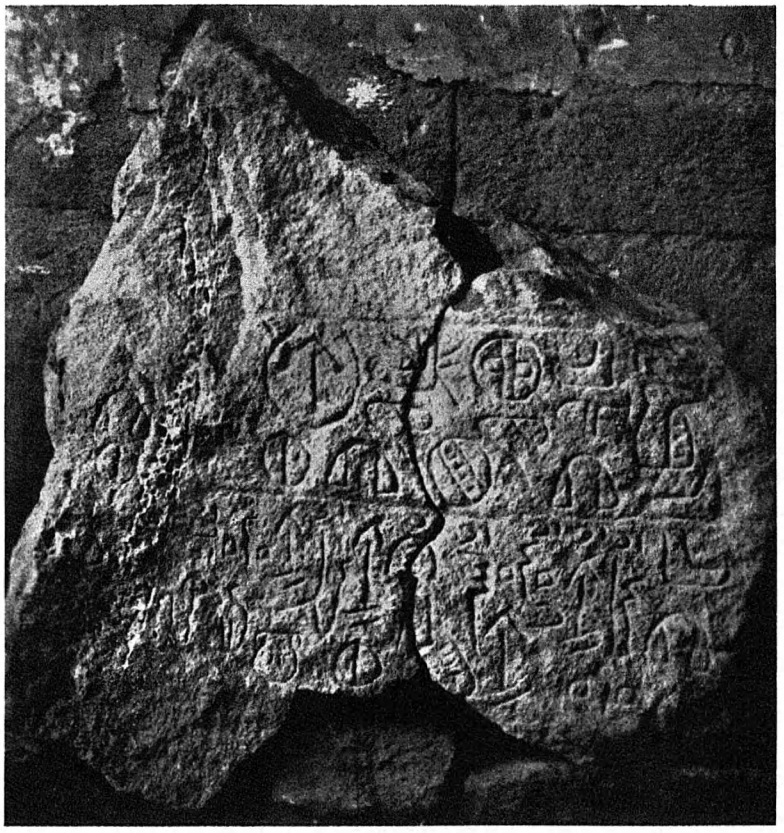

FIG. 2.—INSCRIPTION FROM ERKELET

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this ideogram as Tarku (HH, I, 28). Other Hittite scholars have read it as Santas or similarly. Thus Bossert (ŠuK, pp. 39 ff.) reads it as Šantaš, Meriggi (in OLZ, XXXV, 660) as Santas or (in MVAG, XXXIX, 149) Sanduīs, and Hrozný (IHH, p. 159) as Santas(?). Since I now know as *ḫu* the sign to which I formerly assigned the value *ku*, my previous reading Tarku should be changed to Tarḫu-. Hieroglyphic ^{d}*Tarḫu-sa* or ^{d}*Tarḫu(ḫu)-sa*, then, corresponds to Luvian cuneiform ^{d}*Tar-ḫu-un-za*.[1] Another proof for my reading of the main god in the hieroglyphs as Tarḫuns instead of Santas lies in the correspondence of Tarḫuns, the name of a king of Malatya in the Hittite hieroglyphs,[2] with Assyrian cuneiform ^{m}*Tar-ḫu-na-zi*, likewise the name of a king of Malatya.[3] The strange Assyrian combination *-na-zi* for the hieroglyphic ending *-n(t)s* is due to the inability of cuneiform writing to express two or more contiguous consonants without intervening vowels at the end of a word. The identity of cuneiform ^{m}*Tar-ḫu-na-zi* with hieroglyphic Tarḫuns can be proved historically as well as phonetically. Sargon in the annals of his tenth year (711 B.C.) reports the conquest of ^{m}*Tar-ḫu-na-zi*, and on the other hand Tarḫuns of the Hittite hieroglyphs is known to be the successor of Sulumeli,[4] who under the name ^{m}*Su-lu-ma-al* is known from Assyrian sources as the adversary of Tiglathpileser III (745–727 B.C.).

ka

The value *ka* for this sign is proved by its occurrence in *Karka(ka)-me-* (HH, I, 27), *Mu-se-ka-* (HH, I, 33), ^{d}*Ma-ru-ta-ka-sa* (p. 30), and ^{n}*Sá-ka-e+ra-sa* (p. 13).

ki?

ke?

The interchange of these two signs was proved in HH, I, 35. The values which I assigned there for these two signs, *tu* for the first sign and *te* for the second, have been accepted without change by Hrozný

[1] Cited by Forrer in ZDMG, LXXVI, 218.

[2] References and discussion by Bossert in AOF, IX, 105 f.; he reads the name of this Malatyan king as Šantaš.

[3] Tallqvist, p. 230. [4] See Bossert, *loc. cit.*

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(IHH, p. 114) and with small changes by Meriggi (in MVAG, XXXIX, 7 f.), who reads these signs as *di* and *ti* respectively.[1]

The difficulty in reading either of these two signs as *t* plus a vowel became apparent to me when it was proved that there were at least four other signs which certainly have the value *t* plus a vowel. Then, too, I have long surmised, although I have never been able fully to convince myself, that the name of a Carchemish king, ^{n}*A-sa-tu-wa-x-ma-ĩ-sá-a* and ^{n}*A-sa-tu-wa-y-ma-ĩ-sá*,[2] should be connected with ^{m}*As-ta-kú-um-me*, the name of a witness in Johns, ADD, I, 131:3.[3] The Assyrian form ^{m}Astakumme shows a contraction in comparison with the hieroglyphic $^{}$Astuwakima-, just as the hieroglyphic ^{n}Astaruwas may be a contraction in comparison with ^{m}Ašduwareš of Hittite cuneiform (cf. pp. 15 f.). The simplest procedure would be to give to *x* and *y* (the two signs with which we are dealing) the values *ku* and *kú*, based on comparison of the hieroglyphic with the cuneiform personal name; but because in the following section we shall meet with a sign which certainly has the value *ku* and because in the Hittite syllabary the corresponding signs for *ki* and *ke* have not yet been identified, I give to the new signs the values *ki* and *ke*, which I believe will prove to be right, even though I cannot yet produce very convincing proofs for these values.

The interchange of hieroglyphic *ki* (or *ke*) with cuneiform *ku*, assumed above, would be duplicated in hieroglyphic *Tarki(ki)+me?* (M XLI:9) as compared with the corresponding cuneiform writing ^{m}*Tar-kum-mu-wa*.[4] In the latter case at least, the hieroglyphic form may be compared with the Cilician personal name Ταρκιμως (Sundwall, p. 214), which also shows *ki* instead of the cuneiform *ku*.

[1] The fundamental difference between Meriggi's and my treatment of two interchangeable syllables lies in the fact that he usually distinguishes them by assigning to one syllable a voiced consonant and to the other a voiceless one, but retaining the same vowel, whereas I do not recognize any distinction between voiced and voiceless consonants in Hittite hieroglyphs and therefore retain the same consonant but differentiate the vowels.

[2] References given by Meriggi in MVAG, XXXIX, 110 f.

[3] The existence of many Hittite personal names in Late Assyrian business documents and letters is an established fact.

[4] I am thereby giving up my former reading of the "Tarkondemos boss" (HH, I, 34), all the less willingly now that Meriggi in MVAG, XXXIX, 7 f., is inclined to accept my original interpretation.

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The sign *ke* occurs in a geographical name, *Ke-tra(ra)*[1]*-ma*[city], found twice on an inscription from the neighborhood of Ilghin (CE II:1 and 3). This reading would agree almost to a sign with classical Κιδραμος. That that city is meant is, however, hardly possible in view of its great distance from the place where the hieroglyphic inscription was found.[2]

ku

This sign occurs in such proper names as *Ku+ra-ku-ma-* (HH, I, 18), *Se-ku+ra-* (HH, I, 14 and 26), [d]*Ku*[swallow]*-pa-pa-* (HH, I, 48, and ŠuK, p. 35),[3] and *Ku-ku-la-na* (p. 6). Its value is certain.

la

This sign has been proved by Bossert to have the value *la* on the basis of the name of a king of Tyana, *Wa+ra-pa-la-wa-* (p. 6). This sign occurs also in the personal name *Ku-ku-la-na* (p. 6) and in the divine name [d]*Pa-ḫa-la-ta-se* (p. 16).

le

On the basis of the interchangeable spellings [n]*Mu-wa-tx-li-* and [n]*Mu-wa-tx-x-a-* I previously gave to this sign (*x* in the second spelling) the value *la* (HH, I, 38). Since, however, the values *la* and *li* are required by the signs discussed in the preceding and following paragraphs, this sign is presumably *le*.

li

This sign occurs not only in [n]*Mu-wa-tx-li-* (see preceding paragraph) but also in *U+ra-ḫi-li-na-sa* (p. 14), *wa+ra-pa-li-sa* (p. 6), and *Sulu-me-li* (p. 31).

[1] On this half-ideographic, half-phonetic sign cf. p. 33.

[2] Quoting Pauly-Wissowa under "Kidramos": "Einer Vermutung Ramsays, Cities and Bishoprics of Phrygia I 684 [*read:* 184] folgend, scheint Anderson (Journ. hell. stud. XVII, 396 f.) K. zwischen Attuda, Assar [*read:* Attuda = Assar] und Antiocheia bei Budschák kjöj gefunden zu haben . . . . ."

[3] Cf. also [d]*Gu-ba-ba* in O. Schroeder, *Keilschrifttexte aus Assur verschiedenen Inhalts* (Leipzig, 1920), 42 ii 18 and 180 ii 3.

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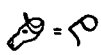
lu?

Hrozný (IHH, p. 110) recognized in this sign the value *lu*, which was accepted later by Meriggi.[1] The sign certainly contains an *u*, for it is twice followed by *wa* (cf. HH, I, 36); but there are no convincing proofs for the value *lu*. However, since but few syllables ending in *u* remain unidentified, the value *lu* for this sign is possible.

 *ma*

The sign *ma* occurs in the following proper names: *A-ma-tu-* (p. 12), *Ku+ra-ku-ma-* (p. 21), ^{d}*Ma-ru-ta-ka-sa* (p. 30), *Ma-na-pa-tata* (Bossert in AOF, IX, 108), *Ke?-tra(ra)-ma*^{city} (p. 21), and *Ni-rx-ma-sa*^{city} (p. 28). Its value is certain.

me

The reading *me* instead of Meriggi's *mi*[2] is proved by its occurrence in *Me+ra-e*^{city} (p. 14), *Karka(ka)-me-* (p. 19), *Sulu-me-li* (p. 31), and *Pi-ḫa-me* (p. 25).

mu

The value *mu* rather than my former reading *mi* is proved by the occurrence of this sign in the following proper names: ^{n}*Mu-wa-tx-li-* (p. 6), *Mu-se-ka-* (p. 19), *Mu-si-* (HH, I, 32), and ^{lituus}*Pa-na-mu-wa-ta-sa*. The last, a personal name, occurs three times in the Boy Bey Punarı inscription (unpublished; A 1:3, B 4:1, D 3:1). It consists of two parts, *Panamuwa-* and *-tas*. The first part clearly corresponds to *Pnmw* of the Sencirli inscriptions, Panammû of Assyrian sources, and Παναμυας and Παναμυης from Asia Minor.[3] The element *-tas* is evidently the same as *-δης*, Doric *-δας*, in Greek patronymics, which in later times represent merely a common type of personal name without patronymic force.[4] Whether Panamuwatas, "Panamuwa's son," should be connected with Panamuwa of Sencirli I am unable to answer or discuss in the present study.

[1] *Indogermanische Forschungen*, LII, 46, and WZKM, XLI, 16.

[2] E.g., MVAG, XXXIX, 3.

[3] Friedrich in KAF, I, 363.

[4] C. D. Buck, *Comparative Grammar of Greek and Latin* (Chicago, 1933), pp. 340 f.

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na

To this sign scholars have assigned more phonetic values than to any other in the syllabary. I formerly gave it the single value *ni* (HH, I, 19); Forrer gave it two values, *na* (HB, p. 24) and *n* (HB, p. 43); Bossert two, *nu* and *na* (ŠuK, p. 27); Meriggi two, *nu* and *an* (in MVAG, XXXIX, 3); Hrozný the values *nu*, *nà*, *n*, and *ni?* (IHH, p. 111). My present opinion is that this sign can be only *na*.

The value *nu* was originally accepted by Bossert and Meriggi because of the occurrence of this sign in the geographical adjective *Tu-wa-x-wa-ni-sa*^{city}, "of Tyana," which they compared with Hittite cuneiform ^{c}Tuwanuwa. But the reading *Tu-wa-na-* (plus the ethnic element *-wani-* plus the nominative *-s*), since it is contemporaneous with the Assyrian name form ^{l}Tuḫana, is more justifiable than the reading with *nu*, which is in congruence with the much older Hittite cuneiform ^{c}Tuwanuwa. Even Xenophon's Thoana and later classical Tyana are forms chronologically nearer Hittite hieroglyphic Tuwana than is Hittite cuneiform ^{c}Tuwanuwa.

Meriggi (in OLZ, XXXVI, 77, n. 1) thought to prove the value *an* for this sign by the interchange of forms which he read as *i-a-an* and *i-an* in parallel passages (e.g., in A 6:9). But these words should be read as *i-a-na* and *i-na* and explained by the phonetic interchange of *i̯a* and *i*, well known in many other languages besides Hittite hieroglyphic. Suffice it to mention Assyro-Babylonian **i̯akšud* > *ikšud*.

The unshaken value *na* is proved more than sufficiently by its occurrence in the following proper names: *Ma-na-pa-tata* (p. 22), *Na-ḫi-ta-* (p. 17), *Ḫa-ra-na-* (p. 26), ^{lituus}*Pa-na-mu-wa-ta-sa* (p. 22), *U+ra-ḫi-li-na-sa* (p. 14), and *Ku-ku-la-na* (p. 6).[1]

ni

ne

The interchange of these two signs was discussed in HH, I, 22 f. The respective values *na* and *ná* there assigned them were accepted without change by Meriggi and Hrozný. Bossert (ŠuK, p. 78) read these two signs as n^2 and n^3 respectively, but later (AOF, IX, 111)

[1] The value *na* is proved also by the fact that this sign is the most common one in the *n* group; for syllables ending in *a* are far more frequent than syllables ending in other vowels.

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for unknown reasons used the transliteration *ni* for the first sign as does Forrer (HB, p. 40).

Since the sign discussed in the preceding section is certainly *na*, these two signs can no longer be so read; I now give them the provisional values *ni* and *ne* respectively. There remains, however, the possibility that these values should be interchanged.

The reading of the first sign as *ni* would be certain if the identity of the personal names *Sa-ru-wa-ni-si* in the hieroglyphs and ^{m}*Sa-a-ri-u-ni* in the cuneiform (p. 31), or of the geographical names *Ni-rx-ma-sa*^{city} in the hieroglyphs and *Ni-ra-ma-* in the cuneiform (p. 28), could be proved beyond a doubt. Comparison of such hieroglyphic forms as *Tu-wa-na-wa-ni-sa*^{city} in II M XXXIII A:1 with Ḫurrian ^{1}*Mi-zi-ir-ri-e-wa-ni-eš*[1] also corroborates the readings of the two signs under discussion as *ni* or *ne*, but not as *na* or *ná*. Similarly, hieroglyphic "city"-*me-ni-* or "city"-*me-ne-*, to be read *umeni-* or *umene-*, corresponds well to Hittite cuneiform UD-*ne-* or UD-*ne-e-*, to be read *umene-* (cf. HH, I, 23).

The interchange of these two signs was proved in HH, I, 46. Meriggi (in WZKM, XLI, 16) has shown that in all probability they have the values *nú* and *nù* respectively. Meriggi's acute and grave accents are necessary because he recognizes a third sign with the value *nu* in the sign to which I now assign the value *na* (p. 23). Even without the third *nu*, these two hieroglyphs seem at first sight to exemplify homophony, the existence of which I have consistently denied. But have we really two signs for *nu?* It seems to me very likely that the sign *nú*, with its three branches each ending in a circle, is merely a simplification of the nine strokes of *nu*, each branch with its accompanying circle standing for three strokes.

[1] Bossert, ŠuK, p. 78, basing his conclusion mostly on this comparison, propounded the theory of Ḫurrian origin of the Hittite hieroglyphic language. The weakness of this argument is apparent to anyone who knows how easily various ethnic endings pass from one language to another. The language of the Hittite hieroglyphs is certainly Indo-European, and in much greater measure than I myself surmised in HH, I, 4 and 82.

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The *nu* sign occurs in only one safely read personal name, *E+ra-nu-wa-ta* (cf. p. 12).

pa

This sign was read as *pa* by Bossert (ŠuK, pp. 27 f. and 66); as *ba* by Meriggi (in OLZ, XXXVI, 83); as *pa*, *ba*, *p*, and *b* by Hrozný (IHH, p. 113); and as *su?* by Forrer (HB, p. 38). Its value *pa* instead of my former reading *pi* (HH, I, 21) is certainly correct. The sign *pa* occurs in *ḫi-pa+ra-* (p. 17) and in the following proper names: *Wa+ra-pa-la-wa-* (p. 6), *Ḫalpa(pa)-* (Meriggi in OLZ, XXXVI, 81), ^{d}*Ku*^{swallow}*-pa-pa* (p. 21), ^{d}*Ḫi-pa-tu* (p. 17), ^{d}*Ḫa-pa-tu* (p. 16), ^{d}*Pa-ḫa-la-ta-se* (p. 16), *Ma-na-pa-tata* (p. 22), ^{lituus}*Pa-na-mu-wa-ta-sa* (p. 22).

pi

Proceeding from the interchange of this sign with the usual sign for *pa* (Meriggi's *ba* discussed in the preceding paragraph), Meriggi (WZKM, XL, 234, n. 2) assigned to this sign the value *pa*.[1] The reading *pi* is preferable, however, for the following reasons: (1) The personal name *Pi-ḫa-me* (Assur e Vo 3) finds its exact correspondence in the personal name ^{m}*Pi-ḫa-me* of Late Assyrian letters.[2] (2) ^{n}*Pi-sa-me-tx-sa*[3] (A 18a:1) may correspond to ^{m}*Pi-sa-an-di* of Late Assyrian contracts.[4] (3) The form *pi-ã-tu* (A 13d:7), "may they give," corresponds exactly to Hittite cuneiform *pí-an-du* (cf. p. 12).

ra

When I first discovered the syllabic value of this sign and read it as *ri* (HH, I, 12 ff.), Meriggi (in OLZ, XXXV, 563) criticized me as follows: ". . . . und zur klaren Erkenntnis, dass der Dorn (wenigstens bei Lautzeichen) immer nur *r* sei, ist auch er noch nicht gelangt." Bossert, who then read this sign as *r* (ŠuK, pp. 24 f. and 60), received the following praise from Meriggi (*op. cit.*, col. 658): "Der Vergleich mit den anderen sichersten Ortsnamen liefert ihm bald die bei ihm

[1] Similarly now Bossert in AOF, IX, 110, n. 2; Hrozný, IHH, p. 155, accepts the values *pá* and n_1.

[2] Harper, *Assyrian and Babylonian Letters*, No. 784:5.

[3] The order of the signs is not certain.

[4] Johns, ADD, II, 743 rev. 4.

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endlich klare Erkenntnis, dass der 'Dorn' ein *r*, und weiter nichts, darstellt . . . . ." In the meantime, however, Bossert quietly accepted my reading *ri*.[1] My transliteration of the tang with *ri* was based on two identical geographical names which I then read *u+ri-ni-i-na-a-si* and *u+ri-i-ni-i-na-su* (HH, I, 12). The second example, cited after CE V:3, is not correct, however. The squeeze of this inscription now at my disposal offers after *ri* no trace of the sign which at that time I read as *i*. Though my reading of the tang as *ri* thus loses its main support, still I had inferred correctly the syllabic nature of the tang, which all other Hittite scholars have failed to do. Its value, however, proves to be *ra*, not *ri*, for the following reasons:

1. The geographical name *Ḫa+ra-na-*[2] is mentioned in Hittite hieroglyphic inscriptions from Tell Aḫmar, Sultan Han, and Kara Burun, always as the center of worship of a certain deity represented by the ideogram with the phonetic complement *-mes* or *-mas* or, in one instance, *-memas*.[3] There are two cities which might be identified with hieroglyphic *Ḫa-ra-na-*: (1) Ḫarrân in Mesopotamia, the seat of worship of the moon-god; (2) Ḫar(r)ana in eastern Asia Minor, known from Cappadocian[4] and Hittite cuneiform[5] sources. Both names show an *a* after *r*.

2. The geographical name *Me+ra-e* of M XLII 9 is transcribed in cuneiform as *Me-ra+a*[6] (cf. p. 14).

3. The divine name ^{d}*Warama(wa+ra-ma)-sa* in A 18h (and in A 5a:1 and 3?), ^{d}*Warame(me)* in I M X:2 and $^{[?]}$*Warame(wa+ra-me)-sa* in II M XLVIII:1, may correspond to the divine name Arames which occurs in an Assyrian personal name, ^{md}*A-ra-mes*[7]*-šar-ilâni*^{pl}.[8]

[1] Cf. his transliteration of *-ẏariš* in AOF, VIII, 138 and 143.

[2] References in MVAG, XXXIX, 119.

[3] See Meriggi in MVAG, XXXIX, 173.

[4] J. Lewy, *Die Kültepetexte aus der Sammlung Frida Hahn, Berlin* (Leipzig, 1930), p. 24.

[5] F. Sommer, *Die Aḫḫijavā-Urkunden*, p. 318.

[6] The cuneiform writing *ra+a* with the end of *ra* and the beginning of *a* missing finds close parallels in Nuzi texts, where such compounds as *ta+a* often occur in shortened form. Cf., e.g., E. Chiera, *Joint Expedition with the Iraq Museum at Nuzi* (American Schools of Oriental Research, Publications of the Baghdad School, *Texts*), Vol. V (Philadelphia, 1934), 525:41.

[7] The sign *mes* can be read also *šit*, *rit*, or *lak*.

[8] Harper, *Assyrian and Babylonian Letters*, No. 186:11.

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4. Hieroglyphic *ḫi-pa+ra-* matches cuneiform *ḫippara-* (cf. p. 17).

5. Attachment to the signs for *a* or *e* is in some cases intended to define the reading of the tang as *ra* (see pp. 13 and 28).

6. Various names—*X-pa-ta-wa+ra-ã* (Assur a Vo 3 f.), *X-ni-wa+ra-ã* (Assur b Vo 3), *X-sa-sa-ḫa-wa+ra* (Assur c Vo 14), *x+ra-na-wa+ra-sa* (Assur g Vo 17), *Ku-ma-wa+ra-si* (A 4a:2), ^{n}*A-e+ra-a+ra-sa* = Αραρα (cf. p. 13), ^{n}*Sá-ka-e+ra-sa* = Sangara (cf. p. 13), ^{n}*Ḫalpa(pa)-wa+ra-sa* (A 7i), [. . . .]-*wa+ra-sa* (A 17b:1), *x+ra-wa-ta-wa+ra-si* (RHA, II, Pl. 12:2), and a few others—exhibit the same *-ra-* element as do Hittite cuneiform Mullijara,[1] Bimbira,[2] Bitta/ipara,[3] Šummitara,[4] Šunaššura,[5] and Wa[mb]adura,[6] as well as many names from Asia Minor, such as Δαπαρας, Κολιαμορας, Οσβαρας, Ουδαρας, Παρταρας, Σαταρας.[7]

From the preceding it is clear that the tang when read phonetically has only the syllabic value *ra* [or *r(a)* in closed syllables]. Hittite *r* certainly never weakens to *y* as I thought formerly (HH, I, 13) from the comparison of similar words with and without the tang;[8] nor can Forrer's explanation of the tang (HB, p. 27) as ˃ (from *r*) possibly be correct. And Hrozný's statement (IHH, p. 101) that " 'l'épine' désigne la longueur d'une voyelle, plus rarement un *r* qui suit (rarement précède?) une voyelle,"[9] seems to me phonetically out of the question.

Thus far we have been treading on safe ground. But there are still two questions in connection with the use of the phonetic tang which I must not fail to mention here. Up to now it has been customary, when the tang was found attached to a phonetic sign, to read first the sign to which the tang was attached and then the tang itself. Thus, for instance, all Hittite scholars have been reading the geographical name in A 6:2 in the order *X*$^{\text{˃c}}$*-me-ĩ+ra*$^{\text{city}}$. Similarly, they would

[1] Götze, *Madduwattaš* (Leipzig, 1928), p. 174.

[2] Name of a Hittite king.

[3] Götze, *Muršiliš*, p. 323.

[4] Hrozný, BKS, III, p. 133.

[5] Weidner, BKS, VIII, 92.

[6] *Ibid.*, p. 14.

[7] Sundwall, under each name.

[8] In most cases, when the tang occurs in unexpected places it is due to faulty copying.

[9] E.g., Hrozný's Aêâs? or Ariâs? (IHH, p. 182) is decidedly less correct than Meriggi's Ararars, also imperfectly read (in MVAG, XXXIX, 96). The correct reading is Araras (cf. p. 13).

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have read the title of *Tata-me-ma-sx́*[1] of Topada (see text in OLZ, XXXVII, 145) as *tx́-pa-wa+ra-la-sx́*. But might it not be possible to read the first name in the order *X*ᵓᶜ*-me-ra+ĩ*ᶜⁱᵗʸ and to consider *Me-ra* as the full geographical name and *ĩ* as the same suffix which occurs in the same text after the geographic names *Mu-si-ĩ*ᶜⁱᵗʸ, *Mu-se-ka-ĩ*ᶜⁱᵗʸ, and *Lu?+ra-ĩ-ḫa*ᶜⁱᵗʸ? Might it not be permissible also to read the title of the ruler of Topada as *ta-pa-ra+wa-la-sx́* and to compare it with Hittite cuneiform *tapariyallaš?* These two examples alone are not sufficient to justify the formulation of a rule to the effect that when a tang is attached to a phonetic sign the tang may be read before the sign itself. It may be well, however, to keep this possibility in mind. It has already been suggested by Hrozný (quoted above).

The other question concerns such cases as the interchange of *ka-x+ra-i* (Assur f Ru 28) with *ka-x+ra-e+ra-na* (Assur g Ro 6) or *X-rx+ra-ta-i-wa* (Assur e Ru 24 f.) with *X*ᵓᶜ*-rx+ra-e+ra-ĩ* (Assur e Ru 4 f.). In the second and fourth forms the combination *e+ra* (pronounced *ra*) seems superfluous. Is it inserted as a phonetic aid to show that the tang attached to the preceding sign has the full syllabic value *ra*, not simply the consonantal value *r(a)?*

 rx

The value *la*, proposed for this sign by Hrozný (IHH, pp. 207 ff. and 305 f.), or *l*[2], as Meriggi calls it (in MVAG, XXXIX, 3 and 9), seems based on insufficient proof. For example, the interchange of *X-x+ra-nú-wa-tu* (A 15a:2 and 3) with *X*ᵓᶜ*-y-nú-wa-ḫa* (M XXIII A:2) proves, in my opinion, only that the sign in question, *y* in M XXIII A:2, corresponds to the *ra* of A 15a:2 and 3.

The value *rx* proposed by me is based on comparison of *Ni-rx-ma-sa*ˡᵃⁿᵈ in M IV A:3 with Assyrian ᶜ*Ni-ra-ma-a-a*,[2] the name of a city located in northern Mesopotamia if we may judge from the mention of the land ˡ*Si-me-e* in the next line of the same business document.

Meriggi (in MVAG, XXXIX, 11 f. and 153), believing the ideogram

[1] The sign is used syllabically at Topada only, with the value *sx́*. See Bossert in AOF, VIII, 303, n. *, and Hrozný, IHH, p. 294, n. 15.

[2] Johns, ADD, II, 806:1. The ethnic ending *-a-a* of this name recurs in the same document in ᶜ*Líb-âla-a-a* (l. 4), ᶜ*Ub-bu-u*ᵓ*-na-a-a* (bottom edge 1), and ᶜ*Kal-ḫa-a-a* (rev. 10).

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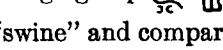
in the sign group  (Assur b Vu 15 f.) to be that for "swine" and comparing it with Indo-European words for "swine," read the whole group as >SCHWEIN<*su-wa-na-i-ḫa-wa*, giving the first sign after the ideogram the phonetic value *su*. Hrozný (IHH, p. 129) recognized in the ideogram the picture of a dog and by Indo-European etymology derived the value *ku* for the first sign after the ideogram. That Hrozný was right in interpreting the ideogram as "dog" can be seen not only from its depiction in the Assur lead strips, but also from the occurrence in A 6:9 of a complete figure of a dog followed by the phonetic signs *-ni-a-i*. But in my opinion the first sign after the ideogram in the Assur lead strips is a compound sign, *wa+rx*, and the whole word for "dog" in Hittite hieroglyphs should therefore be read as *warxwani-*. This is corroborated by the occurrence in A 15b**:4 of the city name *Wa+rx(ra)-wa-ni-ta*^{city}, comparable with Hittite cuneiform °Arawanna in the neighborhood of Išuwa;[1] note also the equation of the Hittite hieroglyphic personal name *Wa+rx-wa-ne-a-sa* in A 4a:2[2] with the Hittite cuneiform ^{m}Urawanni- in KBo, V, 6 i 32, and ^{m}Ariwana in BKS, VIII, 14:43.

ru

The value *ru* of this sign was proved convincingly by Bossert (ŠuK, p. 73) on the basis of its occurrence in the personal name Ḫalparutās. Its presence at the beginning of the divine name ^{d}*Ru-ta-ā-a-si* and similar forms[3] does not prove the existence of words beginning with consonantal *r* in the Hittite hieroglyphs.[4] There can be hardly any doubt, in view of Indo-European etymology,[5] that the name ^{d}*Ru-ta-ā-a-si* begins with an *ŗ* and has to be pronounced ^{d}Arutās or ^{d}Erutās. It is sufficient to mention *eruta*>C<(*e-ru-ta*)- and its variants

[1] Weidner, BKS, VIII, 4:11 and 5:20, and Götze, *Muršiliš*, pp. 79 f. Is °Urauna near °Kummanni (KUB, VI, 45 i 61 [=46 ii 26]) identical with °Arawanna? Cf. also °Araunn[a] in KBo, VI, 28:10 (discussed by Götze, *Kleinasien zur Hethiterzeit* [Heidelberg, 1924], p. 12), and classical Αραυηνη (discussed by Bossert in AOF, VIII, 142, n. 7).

[2] Cf. also *Wa+rx-wa-ni-ĩ* in M XXXI c:2 and my Fig. 1.

[3] Occurrences given by Meriggi in MVAG, XXXIX, 149.

[4] Thus already in HH, I, 20 f. and 75.

[5] Cf. E. Boisacq, *Dictionnaire étymologique de la langue grecque* (Heidelberg and Paris, 1916), pp. 714–16.

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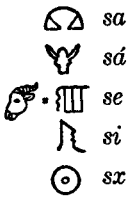
in the Assur lead strips,[1] the personal name Ἀρουτης from Asia Minor,[2] and the river name Orontes.[3] The sign *ru* occurs also in ^{d}*Ma-ru-ta-ka-sa* (Fig. 2, line 1), directly following the personal name ^{n}*Ḫuḫa(ḫa)-tata+me-ma-sa*.[4] Strange as it may seem to find a Babylonian god mentioned among the people of the Hittite hieroglyphs, the exact correspondence of Hittite Marutakas with Babylonian Marduk,[5] biblical Merodakh (<*Marudak), cannot be called a mere coincidence.[6]



Because of their frequent occurrence as case endings, most of the *s* signs have been from the very beginning of Hittite hieroglyphic decipherment easily recognizable as far as their consonantal element is concerned. Strange to say, for this same reason the distinction of their individual vowels presents even today one of our greatest difficulties.[7] Of all the *s* signs, the *sa* sign is the most common and its value the most certain. Its value *sa* is substantiated by the very fact that it is the most common, for, as far as I can see, in the case of all the other consonants the signs that include *a* always predominate. This value would be proved absolutely if it were certain that the words "house"-*sa sa-li-ā* (M XVI A:1 and II M XLVII) actually mean "great[8]

[1] See Hrozný, IHH, pp. 55 f., 126, and 311.

[2] Sundwall, p. 54.

[3] It would be worth while to study the distribution of names based on the roots **ṛund*, **turs* (HH, I, 10 f.), **ḫalp* (HH, I, 21), and **sangar*. Such names are found in Asia Minor, Syria, and Mesopotamia.

[4] Cf. Hittite cuneiform ^{m}*Ḫu-u-ḫa-šar-pa-aš* (see p. 14).

[5] The name of Marduk is probably a development out of Sumerian (A)MAR-UTU-K, "child of the sun." Cf. also H. Zimmern, "Marduk, das Götter-Sonnenkind," ZA, XXXV (1924), 239, and A. Poebel in AJSL, LI (1935), 171 f.

[6] The existence of another Semitic divinity, Ba'lat (cf. p. 16), in the Hittite hieroglyphic inscriptions was proved by Hrozný, IHH, p. 26, n. 1.

[7] The large number of *s* signs (cf. also pp. 31 f.) suggests that some of them may express related sounds such as *ts* (German *z*).

[8] Cf. Hittite cuneiform *šalliš*, "great."

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house," "palace," and that the personal name *Sa-ru-wa-ni-si* (II M LIII) corresponds to ^{m}*Sa-a-ri-u-ni*[1] of the Assyrian contracts.[2]

The vowels of the other signs must still be considered doubtful. I read the second sign provisionally as *sá*[3] because of its occurrence in the personal name ^{n}*Sá-ka-e+ra-sa* (A 7h) = Assyrian Sangara (cf. p. 13). Also purely provisional are the values *se* and *si* for the third and fourth signs respectively. The value *sx* for the fifth sign was easily deduced from comparison of the case endings in ^{bowl}*Se-x+ra-ka-wa-ne-na*^{city} ^{d}*Tarḫu-ĩ-na* (A 1a:1) with those in ^{bowl}*Se-x+ra-ka-wa-ne-sx*^{city} ^{d}*Tarḫu-ĩ-sa* (A 1a:6).[4]

Of hand hieroglyphs there are two, apart from the well known signs with the values *na*, *pi*, and *ti?*, which should be discussed here: the sign , cursive ,[5] which is used mostly in ideograms denoting relationship, such as "son," "grandson"; and the fist sign .[6] The *y* sign occurs in personal names from Malatya and Darende[7] in the form of *y-me-li*, which was read as *Sulu-me-li* by Hrozný (IHH, p. 53) and compared with Assyrian Sulumal. Hrozný obtained for *y* the reading *sulu* < *sunu* by identifying *y* with *x* and reading the word for "son," *x-na-s*, as *sunas* on the basis of comparison with Indo-European **sunu-*. Meriggi, however, called attention to the fact that *x* is not regularly interchangeable with *y*, even though an occasional exception occurs, as in A 2:1, where *y*, the fist sign, is used in the ideogram for "son."[8] Therefore there is no reason for reading the

[1] Johns, ADD, I, 618:10.

[2] The only reading besides *sa* which could be taken into consideration is *su*, provided the three personal names discussed by Hrozný, IHH, p. 20, actually contain the divine name Tešup. But it should also be borne in mind that Tešup is called Teišbaš in the Chaldic inscriptions and Tišpak in the Babylonian. Therefore I do not subscribe to the value *su* for this sign, even though additional substantiation might be provided by a possible connection between Hittite hieroglyphic *Ta-ka-sx-la-sa* in the lead strips from Assur and Hittite cuneiform *taksul*.

[3] Syllables accented in my transliterations of Hittite hieroglyphs are to be considered phonetically similar to, but not identical with, the corresponding unaccented syllables.

[4] Thus also Meriggi in MVAG, XXXIX, 3 f., correcting his previous statement in OLZ, XXXVI, 78, and giving additional proofs for this reading.

[5] Designated in the following as *x*.

[6] Designated in the following as *y*.

[7] Occurrences in MVAG, XXXIX, 112.

[8] *Indogermanische Forschungen*, LII, 48.

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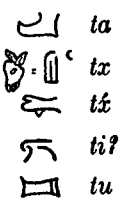
ideogram *x* used in writing "son," "child," as *suna*. Moreover, the word "child"-*ni-mu-wa-ĭ-sa* (*passim*) has nothing in common with "child"-*ni-sa*,[1] because in the first case the full phonetic rendering of the ideogram for "son" is given. Cf. *ni-mu-wa-i* in connection with another expression for relationship, *ḫa-ma-sá*, in CE V:2 and 3. That *x* has a syllabic value also is apparent from its occurrence in such forms as *x-x-la* (II M XLVIII:3), *x-x-sá* (Assur a Vo 10, b Vo 7, d Vo 10), *x-x-nú* (Assur f Vo 30), and *x-x-a-tx́* (RHA, II, Pl. 12:1).

Still another hand sign, (called *z* here), which may have a syllabic value occurs in an inscription found in the neighborhood of Darende. Line 4 of this inscription after my own copy has *z-tu-ma-ni-a-na*$^{\text{city}}$, which could be compared with LÚ $^{\circ}$*Šu-tu-um-ma-na-aš* of the Boğazköy texts.[2] This would indicate for *z* the value *su*. But the form of this sign is not clear. If its upper curvature is disregarded and considered as a purely accidental scratch on the stone, then this sign appears quite similar to that used in the ideogram for "son" in line 2 of the same inscription.



Determination of the vowels of the *t* signs, even though not so difficult as in the case of the *s* signs, still presents many problems. My former reading *pa* for the first sign must be rejected. That it is *ta* is proved beyond any doubt by its occurrence in the name Ḫalparutās (cf. ŠuK, p. 66) as well as in such names as ^{d}*Pa-ḫa-la-ta-se* (p. 16), ^{d}*Ma-ru-ta-ka-sa* (p. 30), *E+ra-nu-wa-ta* (p. 12), *Tu-wa-ta* (p. 36), *Na-ḫi-ta-* (p. 17), and $^{\text{lituus}}$*Pa-na-mu-wa-ta-sa* (p. 22). The fact that it is the most common *t* sign offers further justification for our calling it *ta*. Meriggi (in MVAG, XXXIX, 3) reads the first four signs as *da*, *ta*, *tá*, and *tà* respectively; Hrozný (IHH, pp. 113 f.)

[1] As accepted by Hrozný, IHH, p. 53.

[2] BoTU, 21 ii 6=KBO, III, 60 ii 6. The city Šuta lies in northern Mesopotamia (Weidner, BKS, VIII, 9, n. 4).

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reads the first sign as *tà, da, té?*, the second as *ta*, the third as *tá*, and the fourth as ta_2 and *t?*.[1] But my disbelief in homophony (cf. p. viii) prevents my ascribing the value *ta* to any sign except the first.

The value *ta* for the second sign was deduced from its occurrence in *Mu-wa-tx-li-* and has been generally accepted (see Meriggi in OLZ, XXXVI, 79). I shall be called a heretic for raising any objection against so firmly established a reading. Still, the existence of the *ta* sign discussed in the preceding paragraph prevents my accepting the value *ta* for this sign. I consider it wiser to call it *tx* and let the future decide the exact character of its vowel.

The third *t* sign, since it is commonly interchangeable with the second, may be called *tx́*.

That the fourth sign contains *t* was recognized by Hrozný (IHH, p. 61), who reads it as ta_2. Meriggi (MVAG, XXXIX, 6), following Hrozný, calls it *tà*. I read this sign provisionally as *ti?*, suggested by comparison of hieroglyphic *ḫuḫa(ḫa)-ti?-li-sa* (A 11b:1) with Hittite cuneiform *ḫuḫḫantiš*, each term denoting a remote male ancestor. Then, too, possibly the three very carelessly written signs on the edge of a cuneiform tablet from Boğazköy (KUB, VII, 1) may read *Ḫa-ti* "prince."[2]

The value *tu* for the fifth sign is proved by its occurrence in the following proper names: *Tu-wa-na-* (p. 24), *A-ma-tu-* (p. 12), ^{d}*Ḫi-pa-tu* (p. 17), ^{d}*Ḫa-pa-tu* (p. 16), and *Tu-wa-ta* (p. 36).

The sign , read by Meriggi (in MVAG, XXXIX, 5) as *tar*, I consider to represent *tra(ra)*. The three strokes express the ideogram for "three," in Hittite hieroglyphic *tra*, and the tang is the phonetic complement *ra*.[3]

wa

This is the most common sign in Hittite hieroglyphic writing. Its value *wa*, as recognized by Forrer (HB, p. 20), Bossert (ŠuK, p. 27), Meriggi (OLZ, XXXVI, 83), and Hrozný (IHH, p. 116), is cer-

[1] Hrozný calls a fifth sign ta_1 (IHH, p. 113), a sixth ta_3? (*ibid.*, p. 183), a seventh (the fist) ta_4? (*ibid.*, p. 161, n. 2, and p. 235, n. 5), and an eighth ta_5? (*ibid.*, p. 267, n. 4).

[2] Cf. [?]*Ḫa-ti* LUGAL-*iš* in Götze, *Verstreute Boghazköi-Texte* (Marburg, 1930), 87:5.

[3] On such purely phonetic use of an ideogram cf. p. 13.

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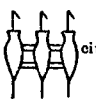
tain. The sign occurs in the following identified proper names: *Tu-wa-na-* (p. 23), *Wa+ra-pa-la-wa-* (p. 6), *Mu-wa-tx-li-* (p. 6), *E+ra-nu-wa-ta* (p. 12), [lituus]*Pa-na-mu-wa-ta-sa* (p. 22), and *Tu-wa-ta* (p. 36).

wi[1]

Three scholars—Forrer, Hrozný, and Meriggi—have written on the phonetic value of this sign. Forrer (HB, p. 30) reads it as *zi*. He bases his reading on an allegedly bilingual text, the cuneiform part of which does not correspond to the Hittite hieroglyphic part (cf. p. 35). Hrozný (IHH, p. 85) reads the sign as *mé*. He bases his reading on the comparison of *me-ã-ta-e trawana*ᵓᶜ*(na)-ta* (A 11a:3) with *x-ã-ta-e trawane*ᵓᶜ*(wa-ne)-ta* (A 11a:2), identifying the sign *x* with our sign *wi* and reading it *mé* by comparison with the parallel *me*. But the traces of the doubtful sign *x* on the photograph in A 8b:2 clearly show four lines, and there is hardly any doubt that that sign is actually *me*. The copy in A 11a:2 should be corrected from this photograph. Meriggi (in MVAG, XXXIX, 2 f.), for reasons unknown to me, suggests the possibility that the sign may be *(w)i*.[2]

Entirely independently of Meriggi I have arrived at the value *wi* for this sign by observing the interchange of such identical forms as *ᵓa-wi-sź-na* (OLZ, XXXVII, 147:6), *ᵓa-pa-sź-na* (*ibid.*, l. 8), *ᵓa-pa-sa-na* (*loc. cit.*), and *e-pa-sa-ḫa* (*loc. cit.*) with *ᵓa-pa-sá-na* (A 6:9) and *ᵓa-pi-sá-na* (M VI:2). In this word *wi* and *pi* interchange with *pa*. I found further proof for my reading *wi* in the geographical name *Tx-la-*  [city] from Karga.[3] Although I could not prove the identity of that city with ᶜTalawa of Hittite cuneiform inscriptions,[4] I felt inclined to

[1] Because of the rarity of this syllabic sign in the Carchemish inscriptions (cf. A 6:7) I was unable in my earlier work to determine its phonetic value and therefore omitted it from the list of phonetic signs in the frontispiece of HH, I.

[2] He has promised to discuss this value in his forthcoming article on the lead strips from Assur.

[3] See H. H. von der Osten, *Explorations in Hittite Asia Minor, 1927–28* (OIC, No. 6 [1929]), Fig. 160.

[4] Götze, *Madduwattaš*, pp. 16 f.

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assume that the *x* of *Tx-la-x* should be either *wa* or *wi*. My assumption gained support immediately from the form of *x* in the Karga inscription. It clearly represents three jars bound together, from each of which protrudes a drinking-straw. This ideogram suggests a beverage;[1] and, since viticulture is common in Asia Minor and wine is called *wi-* in Hittite cuneiform, it was no longer difficult to deduce the phonetic value *wi-* for the sign *x* of *Tx-la-x*. This elaborate sign in the geographical name from Karga is evidently the original form of , to which it was simplified in the course of time.

Reading the signs as suggested in the preceding, Forrer's seal bears the hieroglyphic legend *Wi-la* and the cuneiform legend *Zi-ti*. Since the rendering of all four signs is now definite, it is clear that the inscription is not bilingual. Can it be that the name is written half in cuneiform and half in hieroglyphic and that *Zi-ti-wi-la* should be compared with ^{m}*Zi-it-wa-al-la* or ^{m}*Zi-it-wa-al-li* of Hittite cuneiform sources?[2] I can find no parallel for such a method of writing.

The sign *wi* occurs also in a geographical name from Topada, *Pa+ra-wi-tá-*,[3] which probably corresponds to Bareta of later periods.[4]

wx

The interchange of the personal name *Wa-lu?-tata+me-ma-sa* from Sultan Han with *x-lu?-tata+me-ma-sá* from Topada[5] proves that the sign *x* must have a value similar to that of *wa*.[6] The same conclusion

[1] Cf. the very similar Egyptian forms depicting wine-jars in *Mitteilungen des Deutschen Instituts für ägyptische Altertumskunde in Kairo*, V (1934), 52 ff. Pictures of people sucking liquids through straws are shown in an article by W. Spiegelberg and A. Erman, "Grabstein eines syrischen Söldners aus Tell Amarna," *Zeitschrift für ägyptische Sprache*, XXXVI (1898), 126–29. I am indebted to Dr. Edith W. Ware of the Oriental Institute for both Egyptian references.

[2] KUB, III, 34 rev. 2 and 6.

[3] See Meriggi in MVAG, XXXIX, 144.

[4] See Ramsay, *The Historical Geography of Asia Minor*, pp. 216 f.

[5] References given by Meriggi in MVAG, XXXIX, 120 f. and 170. Cf. also the writing *Wá-lu?-tata+me-ma-sx* with the sign *wá*, which has only local importance, in an inscription from Kayseri.

[6] Cf. also Hrozný, IHH, pp. 268 f. and 294 f.

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may be drawn from a comparison of the personal name *Tu-wa-ta*[1] from Malatya (CE XXII) with *Tu-x-ta-sá* from Topada (l. 1).[2] Therefore the sign *x* should be either *we* or *wu*.[3]

[1] The text was collated by myself.

[2] The personal name Tuwata from Malatya is attached to a relief of a female figure. From Chaldic inscriptions we know of a man called ^{m}Tuate(ḫini), whom Sayce in JRAS, 1882, p. 403, considered the father of Ḫilaruada, king of Malatya. Professor C. F. Lehmann-Haupt, to whom I am indebted for a note on the Malatyan kings mentioned in the Chaldic inscriptions, thinks there is no reason to consider ^{m}Tuate a Malatyan king.

[3] Bossert (in *Forschungen und Fortschritte*, IX [1933], 19) gives this sign the value *ḫa* because of its occurrence in a personal name which he reads *Ḫa-tu-ši-li*, and his interpretation has been partially accepted by Meriggi (in OLZ, XXXVI, 82) and Hrozný (IHH, pp. 103 and 268). But on the basis of the latest finds in Boğazköy, some half-dozen royal names written in hieroglyphs can safely be read, and not one of these can be identified sign by sign with any of the known names of New Hittite emperors, such as Šuppiluliuma, Tutḫalia, Muršili, and Ḫattušili. Hence it seems probable that the New Hittite rulers bore double names —that the names Šuppiluliuma, Tutḫalia, etc. were used in cuneiform, but others were used in hieroglyphic writing. Such bearing of double names became prevalent in the Near East with the advent of Hellenistic culture.

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Words Discussed

Word	Meaning	Page	Word	Meaning	Page
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arnu-		12	*piātu*	may they give	12, 25
ḫipara-	captive	7, 17, 25, 27	*sali-*	great	7, 30
ḫuḫa-	grandfather	7, 18	*umeni-*	city	24
ḫuḫati(?)li-		33	*wani-*	tomb	10–11
ḫa-	this	23	*warpali-*	strong	6, 21

*The "x" means an unknown vowel in each case except Sexraka-, where it stands for an unknown syllable (consonant plus vowel).

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